VIDE-V34086

DENON

For U.S.A., Canada, Europe & Japan model

Ver. 1

SERVICE MANUAL

MODEL DVD-2900

DVD AUDIO-VIDEO / SUPER AUDIO CD PLAYER

注 意

サービスをおこなう前に、このサービスマニュアルを必ずお読みください。本機は、火災、感電、けがなどに対する安全性を確保するために、さまざまな配慮をおこなっており、また法的には「電気用品安全法」にもとづき、所定の許可を得て製造されております。従ってサービスをおこなう際は、これらの安全性が維持されるよう、このサービスマニュアルに記載されている注意事項を必ずお守りください。

- For purposes of improvement, specifications and design are subject to change without notice.

- 本機の仕様は性能改良のため、予告なく変更することがあります。
- 補修用性能部品の保有期間は、製造打切後 8年です。

- Please use this service manual with referring to the operating instructions without fail.

- 修理の際は、必ず取扱説明書を参照の上、作業を行ってください。

- Some illustrations using in this service manual are slightly different from the actual set.

- 本文中に使用しているイラストは、説明の都合上現物と多少異なる場合があります。

DENON,Ltd.
16-11, YUSHIMA 3-CHOME, BUNKYOU-KU, TOKYO 113-0034 JAPAN
Telephone: 03 (3837) 5321

SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

LASER RADIATION

Do not stare into beam or view directly with optical instruments, class 3A laser product.

注 意　サービス、点検時には次のことにご注意願います。

◉注意事項をお守りください！

サービスのとき特に注意を必要とする個所については、キャビネット、部品、シャーシなどにラベルや捺印で、注意事項を表示しています。これらの注意書きおよび取扱説明書などの注意事項を必ずお守りください。

◉感電に注意！

(1) このセットは、交流電圧が印加されていますので、通電時に内部金属部に触れると感電することがあります。従って通電サービス時には、絶縁トランスの使用や手袋の着用、部品交換には、電源プラグを抜くなどして、感電にご注意ください。

(2) 内部には、高電圧の部分がありますので、通電時の取扱には、十分ご注意ください。

◉指定部品の使用！

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用してください。特に配線図、部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

◉部品の取付けや配線の引きまわしは、元どおりに！

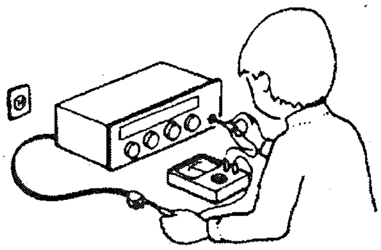
安全上、テープやチューブなどの絶縁材料を使用したり、プリント基板から浮かして取付けた部品があります。また内部配線は引きまわしやクランパーによって発熱部品や高圧部品に接近しないように配慮されていますので、これらは必ず元どおりにしてください。

◉サービス後は安全点検を！

サービスのために取り外したねじ、部品、配線などが元どおりになっているか、またサービスした個所の周辺を劣化させてしまったところがないかなどを点検し、外部金属端子部と、電源プラグの刃の間の絶縁チェックをおこなうなど、安全性が確保されていることを確認してください。

（絶縁チェックの方法）

電源コンセントから電源プラグを抜き、アンテナや、プラグなどを外し、電源スイッチを入れます。500V絶縁抵抗計を用いて、電源プラグのそれぞれの端子と、外部露出金属部〔アンテナ端子、ヘッドホン端子、マイク端子、入力端子など〕との間で、絶縁抵抗値が1MΩ以上であること、この値以下のときは、セットの点検修理が必要です。



注 意　安全上重要な部品について

本機に使用している多くの電気部品、および機構部品は安全上、特別な特性を持っています。この特性はほとんどの場合、外観では判別つきにくく、また、もとの部品より高い定格（定格電力、耐圧）を持ったものを使用しても安全性が維持されるとは、限りません。安全上の特性を持った部品は、このサービスマニュアルの配線図、部品表につぎのように表示していますので、必ず指定されている部品番号のものを使用願います。

(1)配線図… ⚠マークで表示しています。

(2)部品表… ⚠マークで表示しています。
指定された部品と異なるものを使用した場合には、感電、火災などの危険を生じる恐れがあります。

DISASSEMBLY

(Follow the procedure below in reverse order when reassembling.)

1. Top Cover

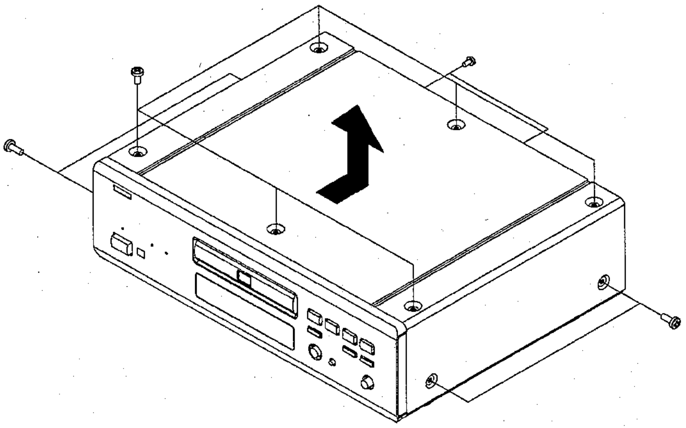
(1) Remove 10 screws on the top and both sides, and 2 screws on the rear.
(2) Widen the Top Cover a little laterally, then detach it with sliding in the arrow direction.

各部のはずしかた

(組み立てるときは、逆の順序で行ってください。)

1. トップカバーのはずしかた

(1) 側面及び上面からねじ10本、後ろからねじ2本をはずします。
(2) 左右に少し広げ、矢印の方向にずらしながら、はずします。



2. Loader Panel, Front Panel

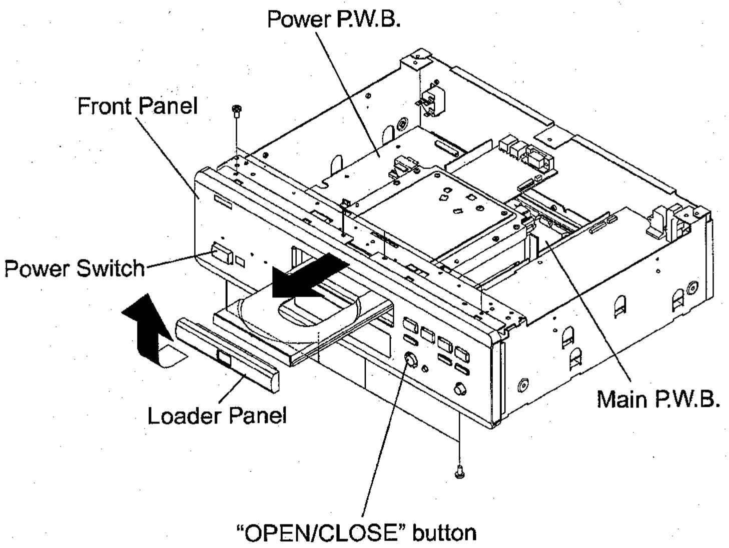
2.1. When the Disc Tray can be ejected electrically

(1) After removing the Top Cover, proceed as follows.
(2) Plug the power cord to the wall outlet, switch on the power, and press the "OPEN/CLOSE" button to open the Disc Tray.
(3) Detach the Loader Panel by lifting it in the arrow direction.
(4) Press the "OPEN/CLOSE" button to close the Disc Tray, then unplug the power cord.
(5) Disconnect the wire (CX025, CX061) connecting the Front Panel's P.W.B. and the power PWB in the Chassis.
(6) Remove 4 top screws and 4 bottom screws, then detach the Front Panel to the arrow direction.
(7) Disconnect the FFC (CX171) connecting the Front Panel's P.W.B. and the main P.W.B. in the Chassis.

2. フロントパネル、ローダーパネルのはずしかた

2.1. ディスクトレイが電動でオープンできる場合

(1) トップカバーをはずした状態で作業します。
(2) 電源コードを電源コンセントに差し込み、電源スイッチを押し、「OPEN/CLOSE」ボタンを押して、ディスクトレイをオープンします。
(3) ローダーパネルを矢印の方向に持ち上げ、はずします。
(4) 「OPEN/CLOSE」ボタンを押し、ディスクトレイをクローズして、電源コンセントから電源コードを抜きます。
(5) フロントパネル内の基板と本体側電源基板を接続シテイルワイヤー (CX025,CX061) をはずします。
(6) 上からねじ4本、下からねじ4本をはずし、フロントパネルを矢印の方向にはずします。
(7) フロントパネル内の基板と本体側メイン基板を接続している FFC（CX171）をはずします。

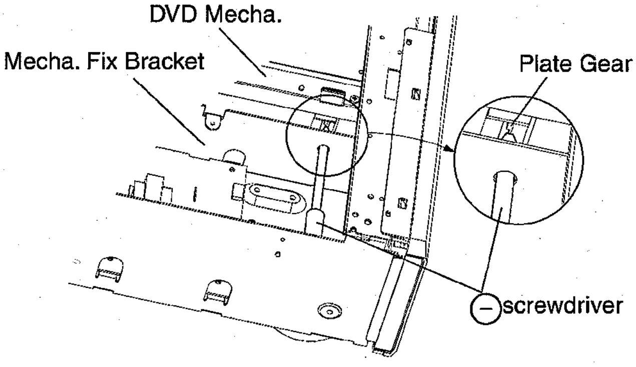


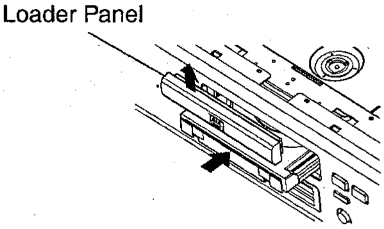
2.2. When the Disc Tray cannot be ejected electrically

(1) After removing the Top Cover, proceed as follows.
(2) Insert a screwdriver(-) into the left hole of the Mecha. Fix Bracket, and push the Plate Gear of the DVD Mecha. slowly to open the Disc Tray.
(3) Remove the Loader Panel, and close the Disc Tray.
(4) Detach the Front Panel following the same steps described on the previous page 1.2.1. (5) - (7).

2.2. ディスクトレイが電動でオープンできない場合

(1) トップカバーをはずした状態で作業します。
(2) メカフィクスブラケットの左側の穴に（−）ドライバーをいれ、プレートギアをゆっくり押してディスクトレイを開きます。
(3) ローダーパネルをはずし、ディスクトレイを閉じます。
(4) 前項1.2.1.の（5）～（7）と同様に、フロントパネルをはずします。



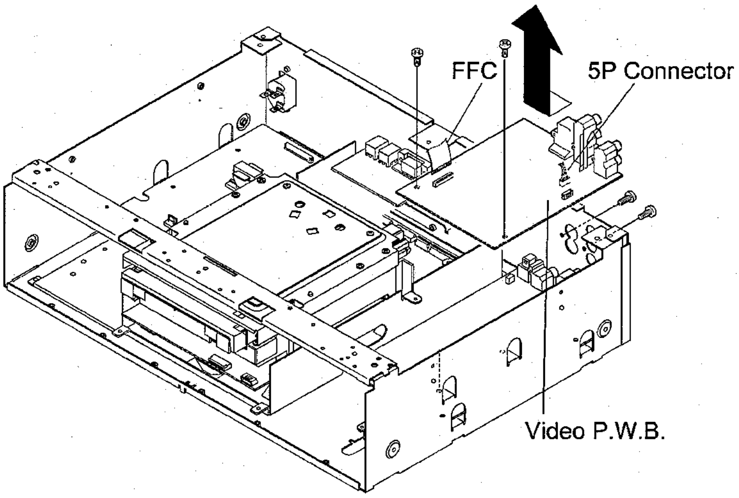


3. Video P.W.B.

(1) Disconnect 33p FFC (CY331) and 5P connector (CY053).
(2) Remove 2 screws on the Video P.W.B.
(3) Remove 2 screws from the rear.
(4) Detach the Video P.W.B. to the arrow direction.

3. ビデオ基板のはずしかた

(1) 33P FFC（CY331）と5Pコネクター（CY053）をはずします。
(2) 基板からねじ2本をはずします。
(3) リア側からねじ4本をはずします。
(4) ビデオ基板を矢印の方向へはずします。

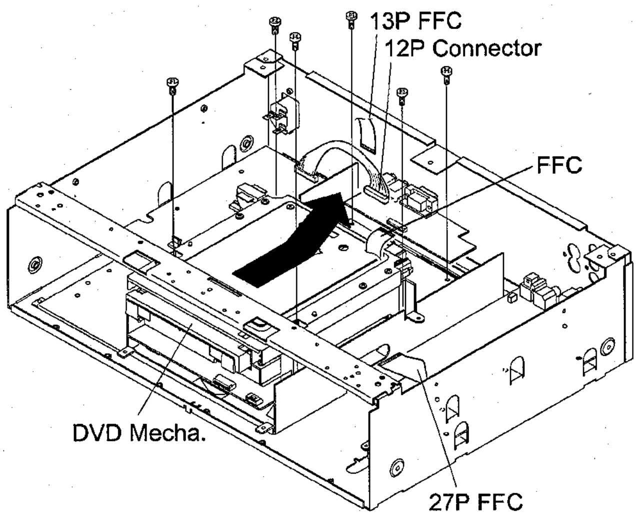


4. DVD Mecha.

(1) Disconnect 27P FFC (CY271) and 13P FFC (CY131) from the Main P.W.B..
(2) Disconnect 12P connector (CY121) from Power P.W.B..
(3) Remove 4 screws on the DVD Mecha and 2 screws on the Main P.W.B., then take it off in the arrow direction.

4. DVD メカのはずしかた

(1) メイン基板からの 13P FFC（CY131）をはずします。
(2) パワー基板からの 12P コネクター（CY121）をはずします。
(3) DVD メカからねじ 4 本、メイン基板からねじ 2 本をはずし、矢印の方向へ DVD メカをはずします。



5. Audio P.W.B./Power P.W.B.

5.1. Audio P.W.B.

(1) Disconnect 4P connector (CY041).
(2) Remove 5 screws on the Audio P.W.B., 4 screws from the rear.

5.2. Power P.W.B.

(1) Remove 5 screws on the Power P.W.B..
(2) Disconnect 2P connector (CX024)

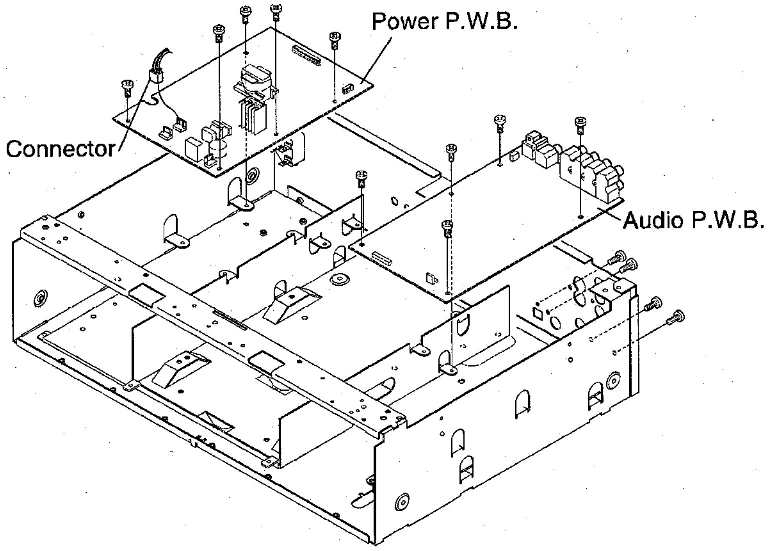
5. オーディオ基板 / パワー基板のはずしかた

5.1. オーディオ基板

(1) 4P コネクター（CY041）をはずします。
(2) オーディオ基板からねじ 5 本とリア側からねじ 4 本をはずします。

5.2. パワー基板

(1) パワー基板からねじ 5 本をはずします。
(2) コネクター（CX024）をはずします。

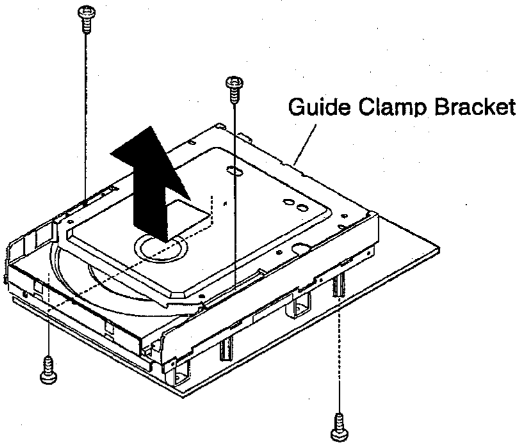


6. Mecha.Unit

(1) Remove 2 screws on the top of the Mecha. Unit, and detach the Guide Clamp Bracket with sliding in the arrow direction.
(2) Solder the short-circuit on the Traverse Unit. (Refer to "Traverse Unit Disassembly" on the page 7.
(3) Disconnect the wires (CX151, CX241, CX031, CX051) connecting with the Main PWB.
(4) Turn over the Mecha. Unit/Main PWB assembly, and remove 3 screws.

6. メカユニットのはずしかた

(1) メカの上からねじ2本をはずし、ガイドクランプブラケットを矢印方向にずらしながらはずします。
(2) ドライバーメカのショートサーキットを半田付けします。（トラバースユニットのはずしかた7ページ参照）
(3) メイン基板と接続しているワイヤー（CX151, CX241, CX031, CX051）をはずします。
(4) 一体のメカユニット / メイン基板を裏返し、ねじ2本をはずします。



7. Traverse Unit Disassembly

Caution: The optical pickup can be damaged easily by static electricity charged on human body. Take necessary anti-static measures when repairing around the optical pickup.

7.1. Guide Clamp Bracket disassembly

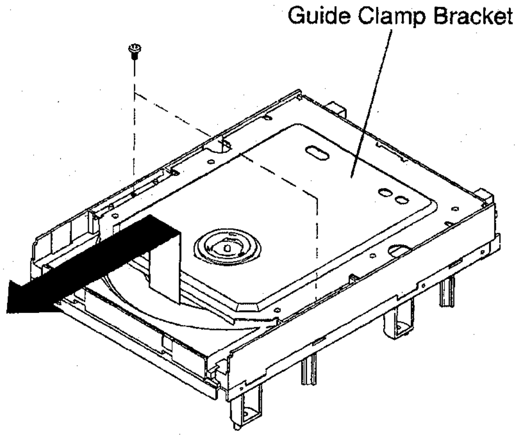
(1) Remove 2 screws.
(2) Remove Guide Clamp Bracket to arrow direction.

7. トラバースユニットのはずしかた

注意：光ピックアップは、人体に帯電した静電気等で静電破壊することがあります。光ピックアップ周辺を修理する際は、必要な静電対策を行ってください。

7.1. ガイドクランプブラケットのはずしかた

(1) ねじ2本をはずします。
(2) ガイドクランプブラケットを矢印方向にとりはずします。



7.2. Tray disassembly

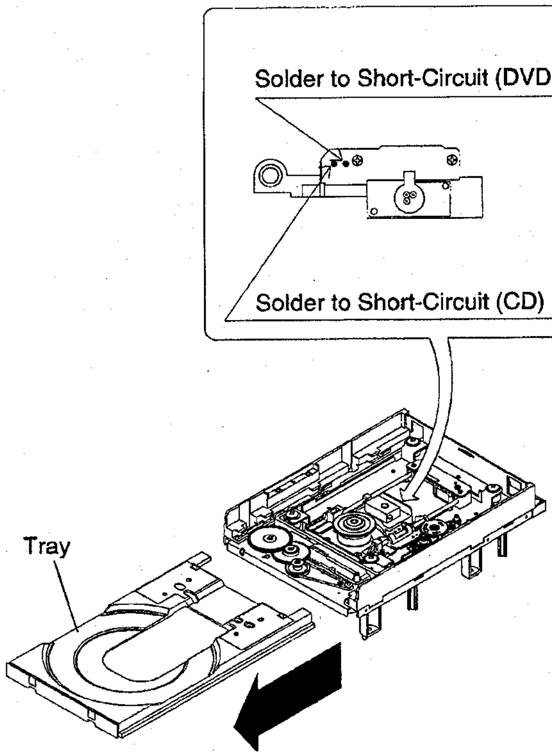
(1) Remove to arrow direction.

(2) Solder the short-circuit (see in the frame).

7.2. トレイのはずしかた

(1) 矢印方向にとりはずします。

(2) 半田付けショートを行います。(枠内図参照)


Solder to Short-Circuit (DVD)
Solder to Short-Circuit (CD)
Tray

7.3. Traverse Unit disassembly

(1) Remove 24P FFC (CX241), 15P FFC (CX151), 5P PH WIRE (CX051) and 3P PH WIRE (CX031) connecting with from the Main P.W.B..

(2) Remove 4 screws fixing Damper.

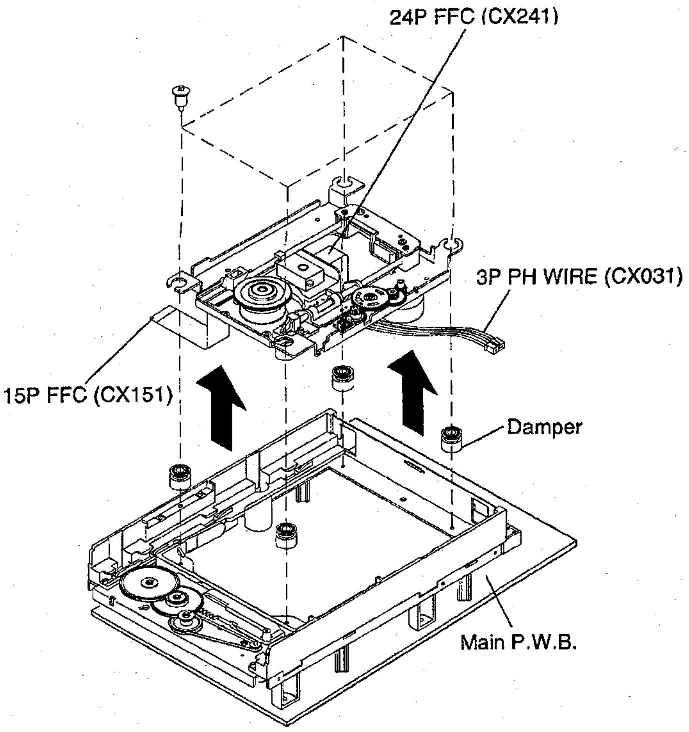
(3) Remove Traverse Unit to arrow direction.

7.3. トラバースユニットのはずしかた

(1) メイン基板に接続している 24P FFC (CX241)、15P FFC (CX151),5P PH ワイヤ (CX051)、3P PH ワイヤ (CX031) をはずします。

(2) ダンパーを固定しているねじ 4 本をはずします。

(3) トラバースユニットを矢印方向にとりはずします。

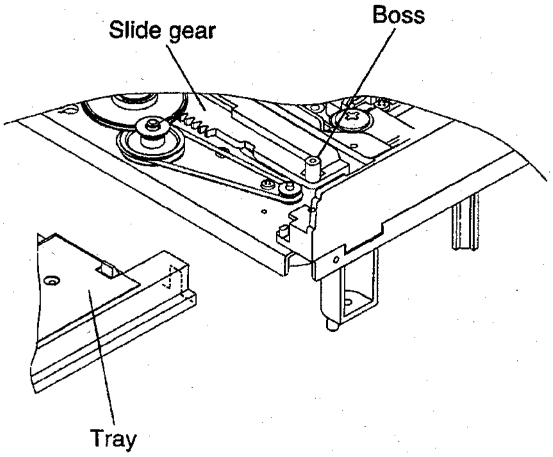

24P FFC (CX241)
3P PH WIRE (CX031)
15P FFC (CX151)
Damper
Main P.W.B.

Note for disassembly Traverse Unit

1. When assembling, reverse the order of the above.
2. When inserting Tray, confirm boss on Slide Cam set to ditch of the Tray (Compare with below drawing).

トラバースユニット分解の注意

1. 組み立てるときは、上記の逆の順序で行ってください。
2. トレイ組込み時、スライドカムのボスがトレイの溝に合っているか確認してください。（下図参照）

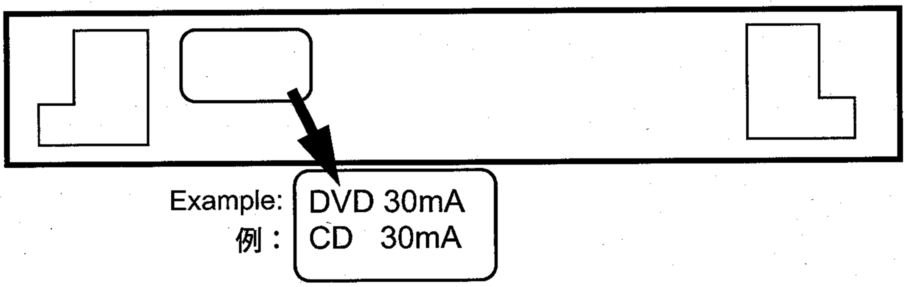


DIAGNOSTICS OF OPTICAL PICKUP AND REPLACING TRAVERSE UNIT

Make failure diagnostics of the Optical Pickup as follows.
If the laser drive current becomes more than 1.5 times of the initial value, the Optical Pickup should be replaced.
The laser drive current is registered on the seal attached to the rear of the Mecha.Unit.
In case of replacing the Pickup, change the whole part of the Traverse Unit.
No mechanical adjustment is necessary after the replacement.

光ピックアップの故障診断とトラバースユニットの交換

次の順序で故障診断を行ってください。
レーザー駆動電流が初期値の 1.5 倍以上になっている場合は光ピックアップ交換の目安となります。
レーザーの電流初期値は、メカの後部のシール上に記入されています。
ピックアップ交換の場合は、トラバースユニット単位での交換となります。メカの調整は不要です。



Disc no read,unsteady playback, etc.

↓

Laser drive current check
HF wave form check
(Refer to page 109)

↓ Present value exceeds the initial value by 1.5 times

Traverse Unit replacing
(See page 7 for details)

↓

Laser current registering after replacement.

Step: Disc playback
Write the measured value on the seal attached to the Mecha. Unit
*As to the measuring method, refer to page 10,11.

ディスクを読み込まない
スムーズに再生しない、等

↓

レーザー駆動電流の確認
H F 波形の確認
(109 ページ参照)

↓ 現在値が初期値の 1.5 倍になっている

トラバースユニット交換
(詳細は 7 ページ)

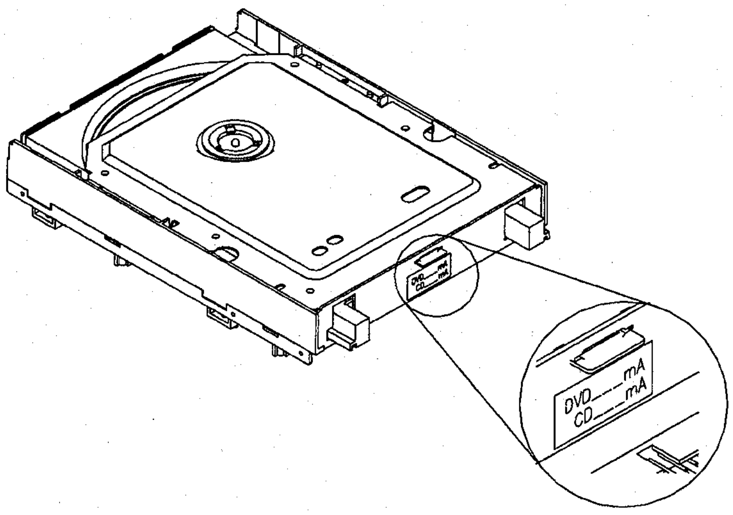
↓

交換後のレーザー電流記入

手順　：ディスクを再生
その時の Iop 値をメカ後方のシールの上に重ねて貼る等で更新する。
*Iop の測定方法は、10,11 ページ参照。

1. Label Indication of DVD Mechanism.

1.DVD メカのラベル表示



Laser current consumption value

ex) DVD ＊＊＊ mA, CD ＊＊＊ mA

レーザー駆動電流値

例) DVD ＊＊＊ mA, CD ＊＊＊ mA

2. Note for Handling the Laser Pick-Up

the protection for the damage of laser diode.

If you want to change the optical device unit from any other units, you must keep the following.

(1) It should be done at the desk already took measures the static electricity in care of removing the OPU's (Optical device unit) connector cable.
(2) Workers should be put on the "Earth Band".
(3) It should be done to add the solder to the short land to prevent the broken Laser diode before removing the 24P FFC cable.
(4) Don't touch OPU's connector parts carelessly.

2. レーザーピックアップの取扱注意

レーザーダイオードの破壊防止。

光素子ユニットを交換するときは、以下を遵守してください。

(1) 光素子ユニットの接続ケーブルをはずすときは、静電対策を行ったデスク上で作業してください。
(2) 作業者は、リストストラップを使用してください。
(3) レーザーダイオードの破壊防止のため、24P FFC ケーブルをはずす前にランドを半田付けショートしてください。
(4) 光素子ユニットのコネクタ部に触れないでください。

3. Replacement of the Laser Pick-up (Traverse Unit)

Check the Iop(Laser drive current)

If the present Iop (current) value exceeds.+50% of the initial value, replace the Traverse unit(Laser Pick-up) with a new one.

3. レーザーピックアップ(トラバースユニット)の交換

Iop(レーザー駆動電流)をチェックします。

現在の Iop 値が初期値の 50%を越えている場合、トラバースユニット(レーザーピックアップ)を交換してください。

4. Iop Measurement Method

When measuring Laser drive current (Iop), playback the discs (CD,DVD) described below, measure Iop for CD Laser and DVD Laser by the test point (+5V-A2 -- LD(CD),LD(DVD))on the Main P.W.B.

Test Disc :DVD/DVDT-S01 or commercially available discs.
:CD/TCD-784 (manufactured by ALMEDIO INC) or commercially available discs.

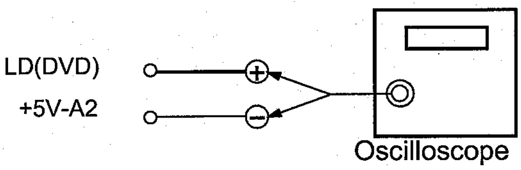
4. Iop の測定方法

レーザー駆動電流を測定する場合、下記のディスク(CD,DVD)を再生します。

Main基板上のテストポイント(+5V-A2〜LD(CD),LD(DVD))にて、CD レーザーと DVD レーザーの Iop を測定してください。

テストディスク：DVD/DVDT-S01 または市販同等ディスク
：CD/TCD-784(ALMEDIO 社製)または市販同等ディスク

4.1. DVD Laser current measurement



(1) Connect the oscilloscope to +5V-A2 of test point for GND side and LD(DVD) of test point for signal side.
(2) Playback the title 1 / chapter 1 of the DVD Test Disc.
(3) Measure the voltage between +5V-A2 and LD(DVD), calculate Iop by the formula as shown below.

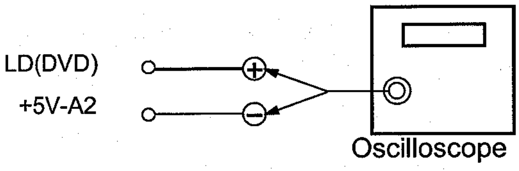
$$\mathrm{Iop} = \frac{\text{Measurement Voltage Value}}{14\ \text{(Resistance value)}}$$

4.2. CD Laser current measurement

(1) Connect the oscilloscope to +5V-A2 of test point for GND side and LD(CD) of test point for signal side.
(2) Playback the track 1 of the CD Test Disc.
(3) Measure the voltage between +5V-A2 and LD(CD), calculate Iop by the formula as shown below.

$$\mathrm{Iop} = \frac{\text{Measurement Voltage Value}}{11.75\ \text{(Resistance value)}}$$

4.1. DVD レーザー電流測定



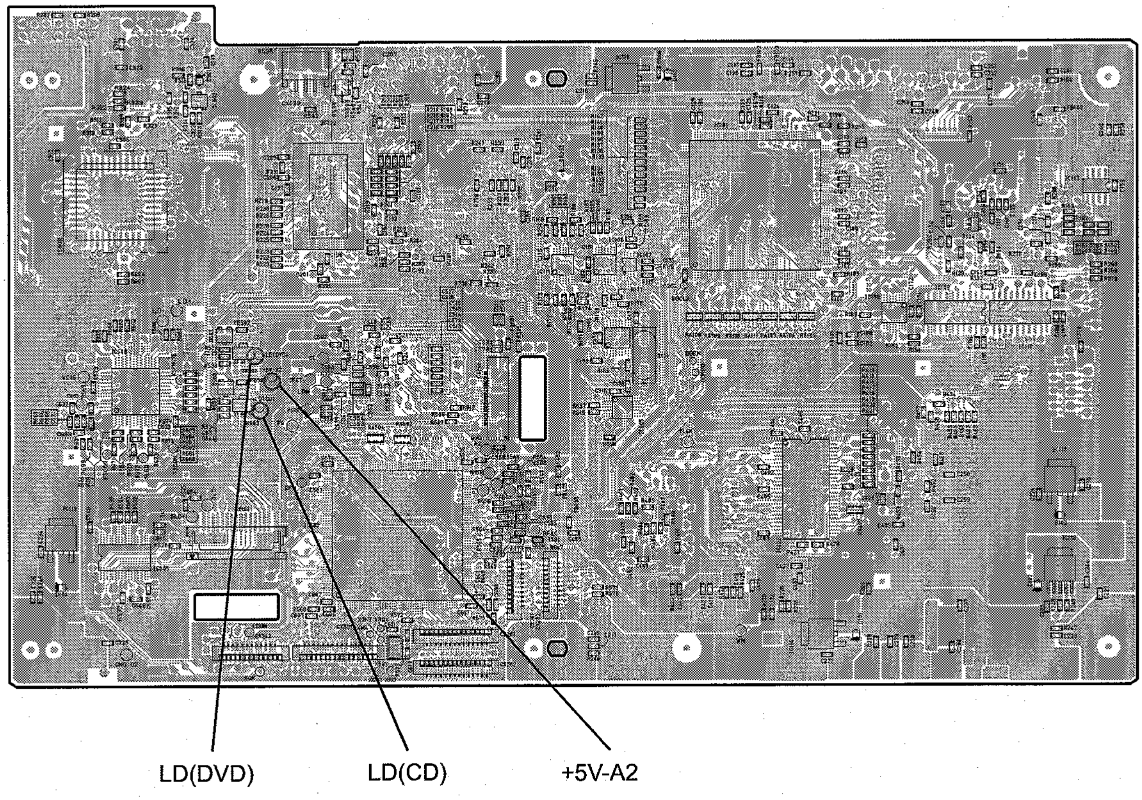
(1) オシロスコープをテストポイント　+5V-A2(GND)　と LD(DVD)(信号)へ接続します。
(2) DVD テストディスクのタイトル 1・チャプター 1 を再生します。
(3) +5V-A2 と LD(DVD) 間の電圧を測定し、次式により Iop を算出します。

$$\mathrm{Iop} = \frac{\text{測定電圧値}}{14(\text{抵抗値})}$$

4.2. CD　レーザー電流測定

(1) オシロスコープをテストポイント　+5V-A2(GND)　と LD(CD)(信号)へ接続します。
(2) CD テストディスクのトラック 1 を再生します。
(3) +5V-A2 と LD(CD) 間の電圧を測定し、次式より Iop を算出します。

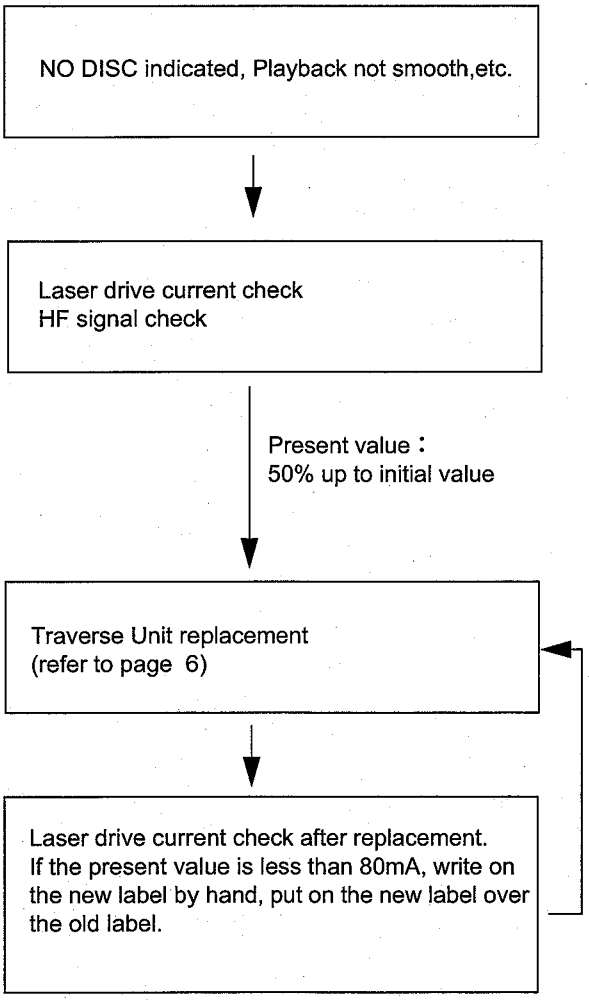
$$\mathrm{Iop} = \frac{\text{測定電圧値}}{11.75(\text{抵抗値})}$$



Main Unit foil side

5. Optical Pick-up Diagnostics and Replacement

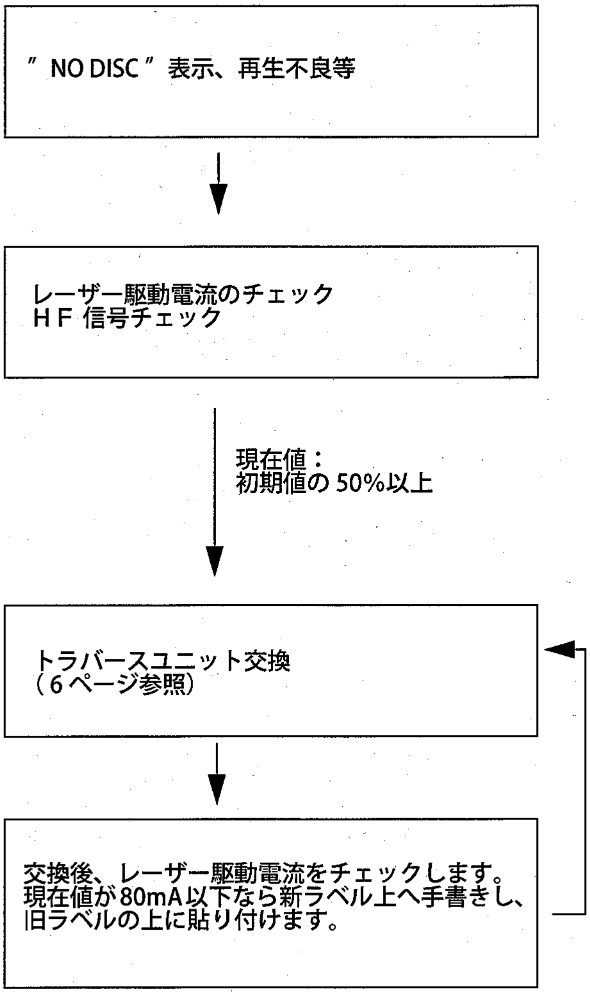
When repairing, carry out failure diagnostics by following the procedure described below.
If the present value of the laser drive current is 50% up to initial value, it is the point of the pickup replacement.
In case of the pickup replacement, replace the Traverse Unit with no adjustment.
The initial value is indicated on the label on back side of Mecha.


NO DISC indicated, Playback not smooth,etc.
Laser drive current check
HF signal check
Present value：
50% up to initial value
Traverse Unit replacement
(refer to page 6)
Laser drive current check after replacement.
If the present value is less than 80mA, write on the new label by hand, put on the new label over the old label.

If the present value exceeds 80mA, replace the Traverse Unit a new one.
Cause: Damaged electrostatically when replaced.

5.光ピックアップ診断と交換

交換時､以下の手順で故障診断を行ってください｡
レーザー駆動電流の現在値が初期値の 50%以上なら､ピックアップを交換すべきです｡
ピックアップ交換の場合はトラバースユニットを交換し､調整は不要です｡
初期値は､メカ後部のラベルに表示されています｡


″NO DISC″表示、再生不良等
レーザー駆動電流のチェック
HF 信号チェック
現在値：
初期値の 50%以上
トラバースユニット交換
（6ページ参照）
交換後、レーザー駆動電流をチェックします。
現在値が 80mA 以下なら新ラベル上へ手書きし、
旧ラベルの上に貼り付けます。

現在値が 80mA 以上なら、再度トラバースユニットを交換してください。
原因　：交換時、静電破壊された。

SERVICE MODE

1. Aging Mode

(1) preparation

(a) Equipment used: Any one of DVD Karaoke Disc (containing more than 10 titles).

(b) Unit setting : No spec other than the following procedure (Aging mode).
At the tray open status, press the "POWER" button to turn on the power while pressing the "PLAY" and "OPEN/CLOSE" buttons for DVD operation simultaneously. ▶❚❚ mark on the FL lights, and the unit is set to the heat run mode.

(2) procedure

(a) According the above, set to the aging mode.

(b) Set a DVD Karaoke disc to the tray and press the "PLAY" button twice. ❚❚ mark on the FL blinks, and aging operation(after playback title-1 and title-10 of the disc, the tray open/close is made automatically, then playback the title-1 again) starts. This aging operation continues automatically until it is stopped or it stops caused by an error. In case of some error in DVD, the following error messages are displayed on the FL.

No	Error contents	FL display
1	Bad Disc	ERROR 02
2	Focus Error	ERROR 02
3	Read Error	ERROR 02
4	Tracking Error	ERROR 04
5	Tray Error	ERROR 05
6	Navigation Pack Read Error	ERROR 06

2. Initial Setting Mode

(1) Preparation

(a) Equipment used: None

(b) Unit setting: No spec other than the following procedure

(2) Procedure

(a) Initialize the DVD player when µcom, peripheral parts of µcom, or Main P.W.B. has been replaced in servicing.

(b) Carry out the following to restore factory setting mode. At the player stop condition, press 3 buttons for DVD operation("PLAY","OPEN/CLOSE", and " ▶▶❙ SKIP") until "INITIALIZE" appears and disappears in the FL. ("Initialized" appears and disappears on the TV screen.)

(c) All user setting will be lost and its factory setting will be restored when this initialization is made. Be sure to memorize your setting for restoring again after the initialization.

サービスモードについて

1.エージングモード

(1) 準備

(a) 使用機器：DVD カラオケディスク（10 タイトル以上の物）。

(b) 本体設定：下記設定以外規定無。
（エージングモード）
トレイを開けた状態で DVD ユニットの「再生ボタン」+「開 / 閉ボタン」を同時に押しながら「電源ボタン」を押してセットの電源を入れると、FL 管の ▶❚❚ マークが点灯し、ヒートランモードに設定される。

(2) 手順

(a) 上記手順でエージングモードに設定する。

(b) トレイに DVD カラオケディスクを入れ、「再生ボタン」を 2 回押して、FL 管の ❚❚ マークが点滅になると、「ディスクのタイトル 1 とタイトル 10 を再生した後、トレイを自動で開 / 閉し、再度タイトル 1 の再生を行う。」エージング動作になります。停止させるか、エラーにて停止するまでこの動作を自動で繰り返します。DVD 部にエラーが発生した場合は、FL 管に下表のエラーが表示されます。

No.	エラー内容	FL 管表示
1	不良ディスク	ERROR 02
2	フォーカスエラー	ERROR 02
3	リードエラー	ERROR 02
4	トラッキングエラー	ERROR 04
5	トレイエラー	ERROR 05
6	ナビゲーションパックエラー	ERROR 06

2.初期設定モード

(1) 準備

(a) 使用機器：無

(b) 本体設定：下記手順以外規定無。

(2) 手順

(a) サービスにて、マイコンやマイコン周辺部分やメイン基板を交換した場合は、ＤＶＤ プレーヤーの初期化を行ってください。

(b) セットの初期化を下記の手順で行い、工場出荷モードに設定する。
セットが停止状態にて、ＤＶＤ 操作部の「再生ボタン」+「開 / 閉ボタン」+「 ▶▶❙ (スキップ) ボタン」の 3 重押しを ＦＬ 管に "INITIALIZE" が表示され消えるまで押します。（ＴＶ 画面には" 初期化しました" が表示され消えます。）

(c) 初期化を行うとお客様が設定した内容が工場出荷状態に戻りますので、あらかじめ設定内容を控えておき初期化後に再設定してください。

3. μ-Com Firm Check Mode

(1) Preparation

(a) Equipment used: None

(b) Unit setting: No spec other than the following procedure.

(2) Procedure

(a) Press the "POWER" button to turn on the power while pressing the "PLAY" and "OPEN/CLOSE" buttons for DVD operation simultaneously.

(b) FL all light mode.
This mode is for detecting FL defects. Press "STILL/ PAUSE ❚❚ " on the remote control unit once to light all FL segments.

(c) DVD μcom and main unit μcom firm check mode. This mode is for displaying the status of each μcom employed.

- DVD μcom firm: Press the "MENU" button or ◀◀ , ▶▶ button.
- Each time the "MENU" button or ◀◀ , ▶▶ button on the remote control unit is pressed, μcom firm is displayed one after another.

Ex.: [DRV 030307, B/E 6237,PANEL 6236]

	Set Serial No. (lower 5 digits)	Drive μcom	B/E μcom	Panel μcom
1	00001-	Ver.030307 (Display) 030307	Ver.6237 (Display) 6237	Ver.6236 (Display) 6236
2				
3				
4				

3.マイコンファームチェックモード

(1) 準備

(a) 使用機器：無

(b) 本体設定：下記手順以外規定無。

(2) 手順

(a) ＤＶＤ操作部の「再生ボタン」と「開／閉ボタン」を押しながらセットの「電源ボタン」を押し電源を入れます。

(b) ＦＬ管全点灯モード。
ＦＬ管の故障判別用のモードで、リモコンの「スティル／ポーズ ❚❚ ボタン」を押すとＦＬ管が全点灯します。

(c) ＤＶＤマイコン及び本体マイコンのファーム確認モード
搭載されている各マイコンのファーム状態を表示します。

- ＤＶＤマイコンのファーム：リモコンの「メニューボタン」または ◀◀ 、▶▶ ボタンを押します。
- リモコンのメニューボタンまたは ◀◀ 、▶▶ ボタンを押すたびにマイコンファームを次々と表示します。

表示例：〔DRV 030307、B/E 6237、PANEL 6236〕

	セットのシリアル番号（下５桁）	ドライブマイコン	B/Eマイコン	パネルマイコン
1	00001 ～	Ver.030307 (表示)030307	Ver.6237 (表示)6237	Ver.6236 (表示)6236
2				
3				
4				

4. Setting up the test mode

(1) Setting up

- In order to set up the test mode, you press STOP button and REV button simultaneously in the heat-run mode.Fundamentaly, you can set up the test mode at the stop state after disc loading. (Heat-run mode is set up by pressing PLAY button,holding OPEN/CLOSE button. If it becomes heat run mode, PLAY indicator and PAUSE indicator will light up.)

LOADING display
↓

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(2) Mode Select

- There are two, servo adjustment value display mode and trace mode (error rate display), in the mode.

(a) If the REV button or the FWD button is pushed in the test mode, it will become servo adjustment value display mode.

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	3											

(b) If the REV button or the FWD button is pushed again, it will become the trace mode (error rate display).

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	7											

(3) Mode decision

- The mode will be decided if the PLAY button is pushed in the state where the mode is chosen.

(a) In the case of servo adjustment value display mode, a focus offset adjustment value is displayed.

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	3	1	n	n	n	n	n	n	n	n	n	n

(n:adjustment value)

(b) In the case of trace mode (error rate display), trace of the circumference in one layer is chosen.

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	7	1	F	F	F	F	F	F	F	F	F	F

(F: An address and an error rate display F at the time of undecided.)

(4) Change within the mode

- If the REV button or the FWD button is pushed in the state where the mode is decided, a change within the mode will be made.

(a) In the case of servo adjustment value display mode (refer to table 1 servo adjustment value display mode details)

FL display (The display part of 13 digits)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	X	X	n	n	n	n	n	n	n	n	n	n

(XX:selection mode [31–62] n:adjustment value)

4. テストモード

(1) テストモードへの投入

・テストモードへの投入はヒートランモード時に STOP キーと REV キーを 2 重押しすることで行う。基本的にディスクローディング後の停止状態でテストモードに投入する。(ヒートランモードへの投入は OPEN/CLOSE キーと PLAY キーを 2 重押しすることで行う。ヒートランモードになると PLAY インジケータと PAUSE インジケータが点灯する。)

LOADING 表示
↓

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(2) モードの選択

・モードには、サーボ調整値表示モードとトレースモード (エラーレート表示) の 2 つがある。

(a) テストモード投入後に REV キー又は FWD キーを押すと、サーボ調整値表示モードになる。

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	3											

(b) 再度 REV キー又は FWD キーを押すとトレースモード (エラーレート表示) になる。

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	7											

(3) モードの確定

・モードを選択してある状態で PLAY キーを押すとモードを確定する。

(a) サーボ調整値表示モードの場合は、フォーカスオフセット調整値を表示する。

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	3	1	n	n	n	n	n	n	n	n	n	n

(n: 調整値)

(b) トレースモード (エラーレート表示) の場合は、1 層内周のトレースを選択する。

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	7	1	F	F	F	F	F	F	F	F	F	F

(F: アドレス及びエラーレートは未確定時、F を表示する。)

(4) モード内での変更

・モードを確定してある状態で REV キー又は FWD キーを押すとモード内での変更を行う。

(a) サーボ調整値表示モードの場合 （表 1 サーボ調整値表示モード詳細 参照）

FL 管の表示 (13 桁の表示部)

1	2	3	4	5	6	7	8	9	10	11	12	13
T	X	X	n	n	n	n	n	n	n	n	n	n

(X X: 選択モード [31 ～ 62]、n: 調整値)

(b) In the case of trace mode (error rate display) (refer to table 2 trace mode details)

FL display (The display part of 13 digits)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T	Y	Y	F	F	F	F	F	F	F	F	F	F

(YY: select mode [71--94] ,F: address and an error rate display F at the time of undecided)

(5) Execution of trace mode (error rate display) (refer to table 2 trace mode details)

- Trace will be performed if the PLAY button is pushed after choosing operation.

FL display (The display part of 13 digits)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T	Y	Y	m	m	m	m	m	m	l	l	l	l

(YY:select mode[71--94],m:address[PBA][HEX],
l:error rate[COUNT/SEC][HEX])

(Note) Renewal of data is carried out for every CD:300 frame and DVD:85ECC block.

- The mode chosen when selection mode was changed into the trace execution and the PLAY button was pushed is performed from the beginning.When the PLAY button is pushed without changing selection mode, the mode under selection is performed from the beginning.(If the PLAY button is pushed, the address corresponding to the chosen mode will be searched again.)

(6) Other operation

(a) If the STOP button is pushed into servo adjustment value display mode and trace mode (error rate display), it will return to the state at the time of a test mode injection.

FL display (The display part of 13 digits)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(b) Push the OPEN/CLOSE button twice and carry out servo readjustment in OPEN operation ->CLOSE operation.

(It readjusts with test mode.)

OPEN display
↓
CLOSE display
↓
LOADING display
↓

FL display (The display part of 13 digits)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(c) By pressing STOP button and REV button simultaneously in the test mode, it returns to heat-run mode.

(b) トレースモード(エラーレート表示)の場合 (表2トレースモード詳細 参照)

FL 管の表示 (13 桁の表示部)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T	Y	Y	F	F	F	F	F	F	F	F	F	F

(Y Y: 選択モード [71 ~ 94]、F: アドレス及びエラーレートは未確定時、F を表示する。)

(5) トレースモード(エラーレート表示)の実行 (表2トレースモード詳細 参照)

- 動作を選択した後、PLAY キーを押すとトレースを実行する。

FL 管の表示 (13 桁の表示部)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T	Y	Y	m	m	m	m	m	m	l	l	l	l

(Y Y: 選択モード [71 ~ 94]、m: アドレス [PBA][HEX]、
l : エラーレート [COUNT/SEC][HEX])

(注)CD:300 フレーム ,DVD:85ECC ブロック毎にデータ更新する。

- トレース実行中に選択モードを変更し、PLAY キーを押すと選択したモードを最初から実行する。選択モードを変更せずに PLAY キーを押した場合も、選択中のモードを最初から実行する。
(PLAY キーを押したら、選択しているモードに対応したアドレスを再度サーチする。)

(6) その他の動作

(a) サーボ調整値表示モード、トレースモード(エラーレート表示)中に STOP キーを押すとテストモード投入時の状態に戻る。

FL 管の表示 (13 桁の表示部)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(b) OPEN/CLOSE キーを 2 回押して、OPEN 動作→ CLOSE 動作で、サーボ再調整する。
(テストモードのまま再調整する。)

OPEN 表示
↓
CLOSE 表示
↓
LOADING 表示
↓

FL 管の表示 (13 桁の表示部)												
1	2	3	4	5	6	7	8	9	10	11	12	13
T												

(c) テストモード中に STOP キーと REV キーの 2 重押し (投入時と同じキー)で、ヒートランモードに戻る。

(7) Test mode detailed table

Table 1: servo adjustment value display mode details

XX	Contents	Contents supplement	Contents explanation
31	RFP FE Offset	layer 0	PI of CXD1881AR An offset value and FE An offset value is displayed. Pi offset is shown in higher rank 1Byte. FE offset is shown in low rank 1Byte.
32	RFP TE Bal Gain	layer 0	TE balance gain value of CXD1881AR is displayed.
33	RFP TE Output Gain	layer 0	TE output gain value of CXD1881AR is displayed.
34	RFP TE Offset	layer 0	TE offset value of CXD1881AR is displayed.
35	DSP TE Offset	layer 0	TE offset value inside CXD1885Q is displayed.
36	Fcs Bias	layer 0	The focus bias value inside CXD1885Q is displayed.
37	Fcs AGC	layer 0	The inside focus gain (setting 0x2000 to 1) value of CXD1885Q is displayed.。 Therefore, 0x1FF2 and in the case of 0x2012, it is as follows. 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(fold) 0x2012(8210) / 0x2000(8192) = 1.002197265625(fold) Notes: The inside of ( ) is a decimal system equivalent.
38	Trk AGC	layer 0	The inside tracking gain (setting 0x2000 to 1) value of CXD1885Q is displayed.。 Therefore, 0x1FF2 and in the case of 0x2012, it is as follows. 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(fold) 0x2012(8210) / 0x2000(8192) = 1.002197265625(fold) Notes: The inside of ( ) is a decimal system equivalent
39	Pi Offset	layer 0	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
40	FE Offset	layer 0	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
41	SE Offset	layer 0	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
42	RFP FE Offset	layer 1	PI of CXD1881AR An offset value and FE An offset value is displayed. Pi offset is shown in higher rank 1Byte. FE offset is shown in low rank 1Byte.
43	RFP TE Bal Gain	layer 1	TE balance gain value of CXD1881AR is displayed.
44	RFP TE Output Gain	layer 1	TE output gain value of CXD1881AR is displayed.
45	RFP TE Offset	layer 1	TE offset value of CXD1881AR is displayed.
46	DSP TE Offset	layer 1	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
47	Fcs Bias	layer 1	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.

(7) テストモード詳細一覧表

表1 サーボ調整値表示モード詳細

XX	内容	内容補足	内容説明
31	RFP FE Offset	レイヤ0	CXD1881AR の PI オフセット値と FE オフセット値を表示。 上位 1Byte に Pi オフセットを示す。 下位 1Byte に FE オフセットを示す。
32	RFP TE Bal Gain	レイヤ0	CXD1881ARのTE バランスゲイン値を表示す。
33	RFP TE Output Gain	レイヤ0	CXD1881ARのTE 出力ゲイン値を表示す。
34	RFP TE Offset	レイヤ0	CXD1881AR の TE オフセット値を表示。
35	DSP TE Offset	レイヤ0	CXD1885Q 内部の TE オフセット値を表示。
36	Fcs Bias	レイヤ0	CXD1885Q 内部のフォーカスバイアス値を表示。
37	Fcs AGC	レイヤ0	CXD1885Q 内部フォーカスゲイン(0x2000 を 1 として) 値を表示。 0x1FF2 や 0x2012 の場合、以下のようになる。 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(倍) 0x2012(8210) / 0x2000(8192) = 1.002197265625(倍) 注 :( ) 内は 10 進換算値
38	Trk AGC	レイヤ0	CXD1885Q内部トラッキングゲイン(0x2000 を 1 として) 値を表示。 0x1FF2 や 0x2012 の場合、以下のようになる。 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(倍) 0x2012(8210) / 0x2000(8192) = 1.002197265625(倍) 注 :( ) 内は 10 進換算値
39	Pi Offset	レイヤ0	CXD1885Q 内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
40	FE Offset	レイヤ0	CXD1885Q 内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
41	SE Offset	レイヤ0	CXD1885Q 内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
42	RFP FE Offset	レイヤ1	CXD1881AR の PI オフセット値と FE オフセット値を表示。 上位 1Byte に Pi オフセットを示す。 下位 1Byte に FE オフセットを示す。
43	RFP TE Bal Gain	レイヤ1	CXD1881ARのTE バランスゲイン値を表示。
44	RFP TE Output Gain	レイヤ1	CXD1881AR の TE 出力ゲイン値を表示。
45	RFP TE Offset	レイヤ1	CXD1881AR の TE オフセット値を表示。
46	DSP TE Offset	レイヤ1	CXD1885Q 内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
47	Fcs Bias	レイヤ1	CXD1885Q 内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。

48	Fcs AGC	layer 1	The inside focus gain (setting 0x2000 to 1) value of CXD1885Q is displayed. Therefore, 0x1FF2 and in the case of 0x2012, it is as follows. 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(fold) 0x2012(8210) / 0x2000(8192) = 1.002197265625(fold) Notes: The inside of ( ) is a decimal system equivalent.
49	Trk AGC	layer 1	The inside tracking gain (setting 0x2000 to 1) value of CXD1885Q is displayed. Therefore, 0x1FF2 and in the case of 0x2012, it is as follows. 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(fold) 0x2012(8210) / 0x2000(8192) = 1.002197265625(fold) Notes: The inside of ( ) is a decimal system equivalent
50	Pi Offset	layer 1	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
51	FE Offset	layer 1	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
52	SE Offset	layer 1	It is the parameter calculated inside CXD1885Q. The value displayed on a set serves as the number of complement of 2 of 2Bytes(es) doubled 256. A voltage value is 6.25mV per bit.
53	PO error detection number	Error rate	It is invalid at the time of CD operation.
54	PO uncorrectable error number	Error Rate	It is invalid at the time of CD operation.
55	PI error detection number	Error Rate	CD : C1 error detection number
56	PI uncorrectable error number	Error Rate	CD : C2 uncorrectable error number
57	Mirr Count	Disc discriminant	They are the contents at the time of disk distinction. Please refer to "Table 3 Disc distinction information" about the contents of a value.
58	Mirr Width	Disc discriminant	They are the contents at the time of disk distinction. Please refer to "Table 3 Disc distinction information" about the contents of a value.
59	FZC Count	Disc discriminant	They are the contents at the time of disk distinction. Please refer to "Table 3 Disc distinction information" about the contents of a value.
60	Pi Level	Disc discriminant	They are the contents at the time of disk distinction. Please refer to "Table 3 Disc distinction information" about the contents of a value.
61	Disc Type	Disc Type	They are the contents at the time of disk type. Please refer to "Table 4 Disc classification information" about the contents of a value.
62	PO error detection number and address	Error rate	PO error detection number is invalid at the time of CD operation.

48	Fcs AGC	レイヤ 1	CXD1885Q　内部フォーカスゲイン (0x2000 を 1 として) 値を表示。 0x1FF2 や 0x2012 の場合、以下のようになる。 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(倍) 0x2012(8210) / 0x2000(8192) = 1.002197265625(倍) 注 :( ) 内は 10 進換算値
49	Trk AGC	レイヤ 1	CXD1885Q 内部トラッキングゲイン (0x2000 を 1 として) 値を表示。 0x1FF2 や 0x2012 の場合、以下のようになる。 0x1FF2(8178) / 0x2000(8192) = 0.998291015625(倍) 0x2012(8210) / 0x2000(8192) = 1.002197265625(倍) 注 :( ) 内は 10 進換算値
50	Pi Offset	レイヤ 1	CXD1885Q　内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
51	FE Offset	レイヤ 1	CXD1885Q　内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
52	SE Offset	レイヤ 1	CXD1885Q　内部で計算されるパラメータ。 セットに表示される値は、256 倍された 2Bytes の 2 の補数となる。 電圧値は 1bit あたり 6.25mV。
53	PO 誤り検出数	エラーレート	CD 時は無効。
54	PO 訂正不可数	エラーレート	CD 時は無効。
55	PI 誤り検出数	エラーレート	CD 時は C1 誤り検出数。
56	PI 訂正不可数	エラーレート	CD 時は C2 訂正不可数。
57	Mirr Count	ディスク判別	ディスク判別時の内容。 値の内容は「表 3 ディスク判別情報」を参照。
58	Mirr Width	ディスク判別	ディスク判別時の内容。 値の内容は「表 3 ディスク判別情報」参照。
59	FZC Count	ディスク判別	ディスク判別時の内容。 値の内容は「表 3 ディスク判別情報」参照。
60	Pi Level	ディスク判別	ディスク判別時の内容。 値の内容は「表 3 ディスク判別情報」参照。
61	Disc Type	ディスク種別	ディスク種別の内容。 値の内容は「表 4 ディスク種別情報」参照。
62	PO 誤り検出数とアドレス	エラーレート	CD 時は PO 誤り検出数は無効。

Table 2: trace mode details

YY	Contents	Contents supplement
71	A display of PO error detection number of the inner circumference of 1-layer and an address.	It is invalid at the time of CD operation.
72	A display of PO uncorrectable number of the inner circumference of 1-layer and an address.	It is invalid at the time of CD operation.
73	A display of PI error detection number of the inner circumference of 1-layer and an address.	CD : C1 error detection number
74	A display of PI uncorrectable number of the inner circumference of 1-layer and an address.	CD : C2 uncorrectable error number
75	A display of PO error detection number of the central circumference of 1-layer and an address.	It is invalid at the time of CD operation.
76	A display of PO uncorrectable number of the central circumference of 1-layer and an address.	It is invalid at the time of CD operation.
77	A display of PI error detection number of the central circumference of 1-layer and an address.	CD : C1 error detection number
78	A display of PI uncorrectable number of the central circumference of 1-layer and an address.	CD : C2 uncorrectable error number
79	A display of PO error detection number of the outer circumference of 1-layer and an address.	It is invalid at the time of CD operation.
80	A display of PO uncorrectable number of the outer circumference of 1-layer and an address.	It is invalid at the time of CD operation.
81	A display of PI error detection number of the outer circumference of 1-layer and an address.	CD : C1 error detection number
82	A display of PI uncorrectable number of the outer circumference of 1-layer and an address.	CD : C2 uncorrectable error number
83	A display of PO error detection number of the inner circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
84	A display of PO uncorrectable number of the inner circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
85	A display of PI error detection number of the inner circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
86	A display of PI uncorrectable number of the inner circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
87	A display of PO error detection number of the central circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
88	A display of PO uncorrectable number of the central circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
89	A display of PI error detection number of the central circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
90	A display of PI uncorrectable number of the central circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
91	A display of PO error detection number of the outer circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
92	A display of PO uncorrectable number of the outer circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
93	A display of PI error detection number of the outer circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.
94	A display of PI uncorrectable number of the outer circumference of 2-layer and an address.	In the case of 1-layer disc, it is invalid.

表2トレースモード詳細

YY	内容	補足説明
71	1層内周のPO誤り検出数とアドレスの表示	CD時は無効。
72	1層内周のPO訂正不可数とアドレスの表示	CD時は無効。
73	1層内周のPI誤り検出数とアドレスの表示	CD時はC1誤り検出数。
74	1層内周のPI訂正不可数とアドレスの表示	CD時はC2訂正不可数。
75	1層中周のPO誤り検出数とアドレスの表示	CD時は無効。
76	1層中周のPO訂正不可数とアドレスの表示	CD時は無効。
77	1層中周のPI誤り検出数とアドレスの表示	CD時はC1誤り検出数。
78	1層中周のPI訂正不可数とアドレスの表示	CD時はC2訂正不可数。
79	1層外周のPO誤り検出数とアドレスの表示	CD時は無効。
80	1層外周のPO訂正不可数とアドレスの表示	CD時は無効。
81	1層外周のPI誤り検出数とアドレスの表示	CD時はC1誤り検出数。
82	1層外周のPI訂正不可数とアドレスの表示	CD時はC2訂正不可数。
83	2層内周のPO誤り検出数とアドレスの表示	1層ディスクの場合、無効。
84	2層内周のPO訂正不可数とアドレスの表示	1層ディスクの場合、無効。
85	2層内周のPI誤り検出数とアドレスの表示	1層ディスクの場合、無効。
86	2層内周のPI訂正不可数とアドレスの表示	1層ディスクの場合、無効。
87	2層中周のPO誤り検出数とアドレスの表示	1層ディスクの場合、無効。
88	2層中周のPO訂正不可数とアドレスの表示	1層ディスクの場合、無効。
89	2層中周のPI誤り検出数とアドレスの表示	1層ディスクの場合、無効。
90	2層中周のPI訂正不可数とアドレスの表示	1層ディスクの場合、無効。
91	2層外周のPO誤り検出数とアドレスの表示	1層ディスクの場合、無効。
92	2層外周のPO訂正不可数とアドレスの表示	1層ディスクの場合、無効。
93	2層外周のPI誤り検出数とアドレスの表示	1層ディスクの場合、無効。
94	2層外周のPI訂正不可数とアドレスの表示	1層ディスクの場合、無効。

Table 3:Disc distinction information

	Mirr Count	Mirr Width	FZC Count	PI Level
No Disc	Except 2 and 3	-	-	-
CD High reflection	2	More than 0x8ED	-	More than 0x99
CD Low reflection	2	More than 0x8ED	-	Less than 0x98
DVD High reflection	2	Less than 0x8ED	1	More than 0x81
DVDLow reflection	2	Less than 0x8ED	1	Less than 0x80
DVD 2-layer	2	Less than 0x8ED	2	-
SACD Hybrid	3	-	-	-

PI level Formula：PI level (V) = Measured value × 1.6 ÷ 256
"-" : Invalid

表3 ディスク判別情報

	Mirr Count	Mirr Width	FZC Count	PI Level
No Disc	2と3以外	-	-	-
CD 高反射	2	0x8ED 以上	-	0x99 以上
CD 低反射	2	0x8ED 以上	-	0x98 以下
DVD 高反射	2	0x8ED 以下	1	0x81 以上
DVD 低反射	2	0x8ED 以下	1	0x80 以下
DVD 2 層	2	0x8ED 以下	2	-
SACD Hybrid	3	-	-	-

PI level 計算式：PI level (V) = 測定値× 1.6 ÷ 256
"-" は無効

Table 4: Disc classification information

Disc Type	Media
0x00	No Disc
0x01	Unknown Disc
0x04	DVD Single Low reflection
0x05	DVD Dual Parallel Low reflection
0x06	DVD Dual Opposite Low reflection
0x08	CDDA Low reflection
0x0A	VCD Low reflection
0x44	DVD Single High reflection
0x48	CDDA High reflection
0x4A	VCD High reflection
0x8F	SACD Hybrid Disc

表4 ディスク種別情報

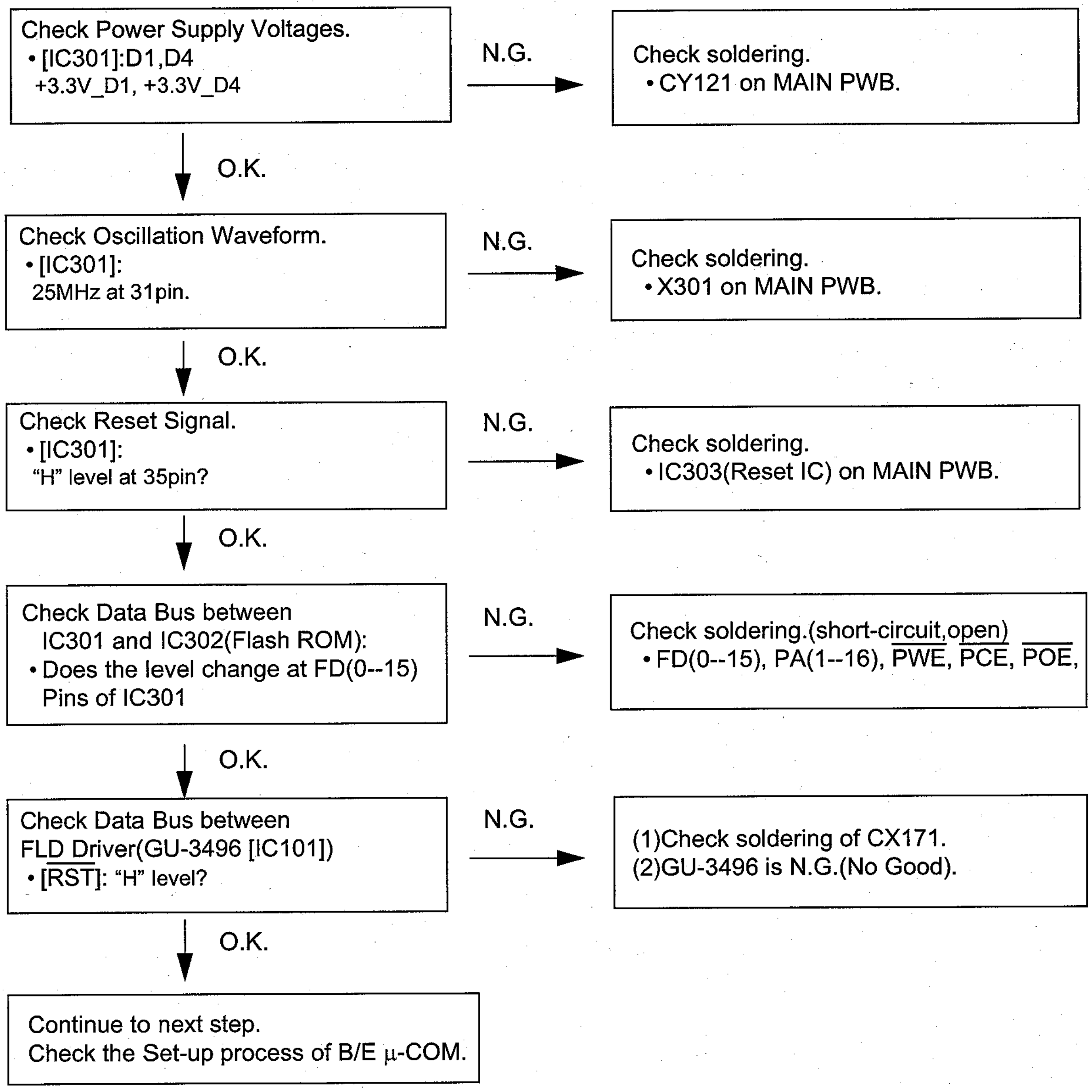
Disc Type	Media
0x00	No Disc
0x01	Unknown Disc
0x04	DVD Single 低反射
0x05	DVD Dual Parallel 低反射
0x06	DVD Dual Opposite 低反射
0x08	CDDA 低反射
0x0A	VCD 低反射
0x44	DVD Single 高反射
0x48	CDDA 高反射
0x4A	VCD 高反射
0x8F	SACD Hybrid Disc

TROUBLE SHOOTING

1. GU-3494 MAIN PWB

1.1. FL TUBE doesn't light

(1) Check the Set-up process of Panel μ-COM



Check Power Supply Voltages.
- [IC301]:D1,D4
+3.3V_D1, +3.3V_D4

N.G. → Check soldering.
- CY121 on MAIN PWB.

O.K.

Check Oscillation Waveform.
- [IC301]:
25MHz at 31pin.

N.G. → Check soldering.
- X301 on MAIN PWB.

O.K.

Check Reset Signal.
- [IC301]:
"H" level at 35pin?

N.G. → Check soldering.
- IC303(Reset IC) on MAIN PWB.

O.K.

Check Data Bus between
IC301 and IC302(Flash ROM):
- Does the level change at FD(0--15) Pins of IC301

N.G. → Check soldering.(short-circuit,open)
- FD(0--15), PA(1--16), $\overline{\text{PWE}}$, $\overline{\text{PCE}}$, $\overline{\text{POE}}$,

O.K.

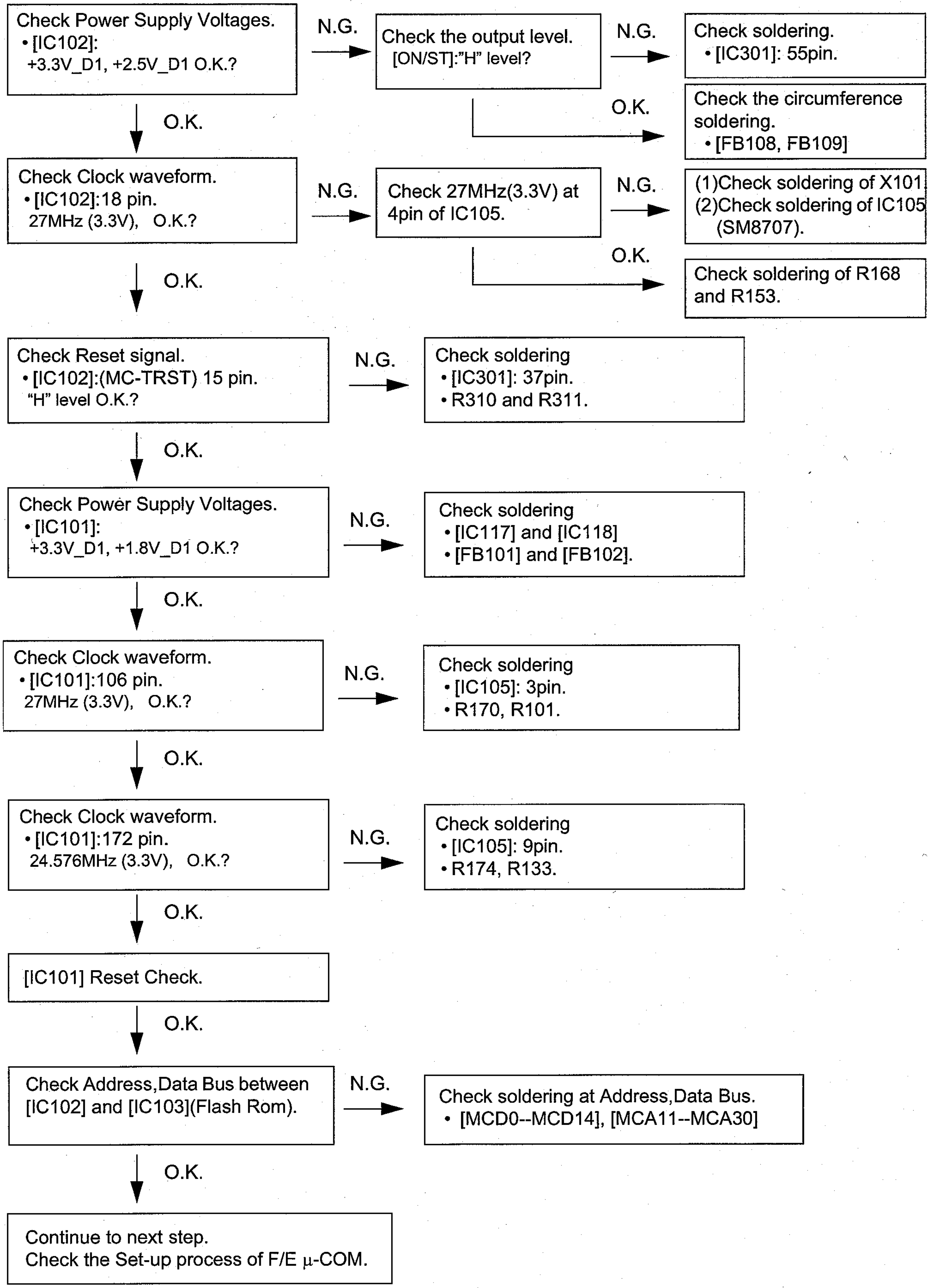
Check Data Bus between
FLD Driver(GU-3496 [IC101])
- [$\overline{\text{RST}}$]: "H" level?

N.G. → (1)Check soldering of CX171.
(2)GU-3496 is N.G.(No Good).

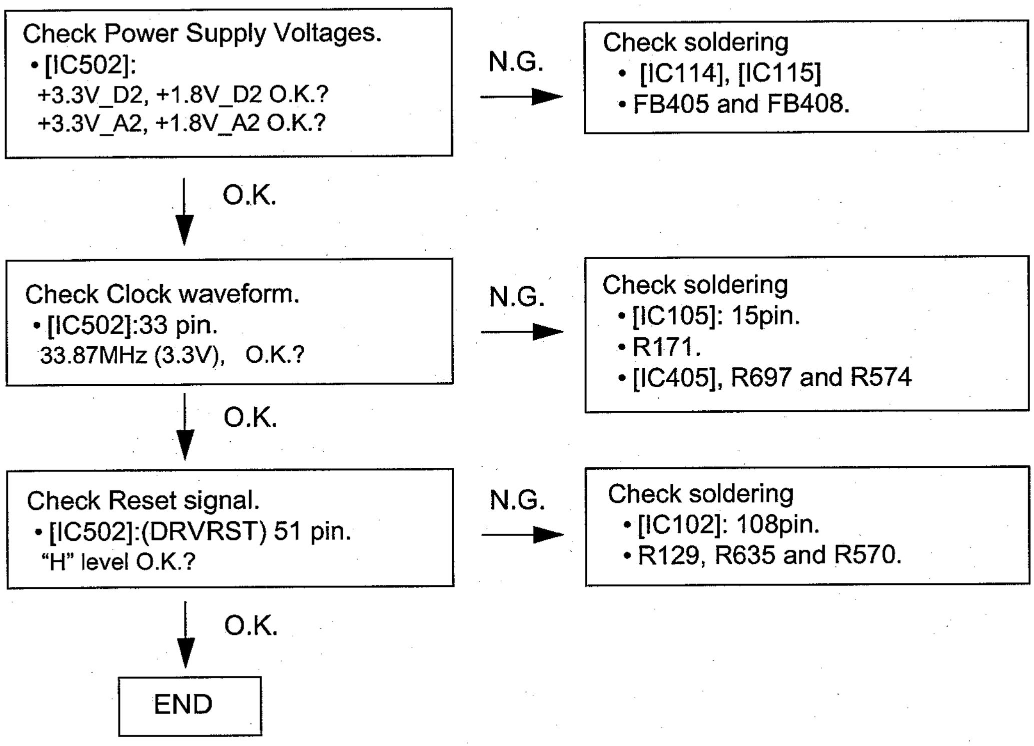
O.K.

Continue to next step.
Check the Set-up process of B/E μ-COM.

(2) Check the Set-up process of B/E μ-COM.


Check Power Supply Voltages.
• [IC102]:
+3.3V_D1, +2.5V_D1 O.K.?
N.G.
Check the output level.
[ON/ST]:"H" level?
N.G.
Check soldering.
• [IC301]: 55pin.
O.K.
Check the circumference soldering.
• [FB108, FB109]
O.K.
Check Clock waveform.
• [IC102]:18 pin.
27MHz (3.3V), O.K.?
N.G.
Check 27MHz(3.3V) at 4pin of IC105.
N.G.
(1)Check soldering of X101
(2)Check soldering of IC105 (SM8707).
O.K.
Check soldering of R168 and R153.
O.K.
Check Reset signal.
• [IC102]:(MC-TRST) 15 pin.
"H" level O.K.?
N.G.
Check soldering
• [IC301]: 37pin.
• R310 and R311.
O.K.
Check Power Supply Voltages.
• [IC101]:
+3.3V_D1, +1.8V_D1 O.K.?
N.G.
Check soldering
• [IC117] and [IC118]
• [FB101] and [FB102].
O.K.
Check Clock waveform.
• [IC101]:106 pin.
27MHz (3.3V), O.K.?
N.G.
Check soldering
• [IC105]: 3pin.
• R170, R101.
O.K.
Check Clock waveform.
• [IC101]:172 pin.
24.576MHz (3.3V), O.K.?
N.G.
Check soldering
• [IC105]: 9pin.
• R174, R133.
O.K.
[IC101] Reset Check.
O.K.
Check Address,Data Bus between [IC102] and [IC103](Flash Rom).
N.G.
Check soldering at Address,Data Bus.
• [MCD0--MCD14], [MCA11--MCA30]
O.K.
Continue to next step.
Check the Set-up process of F/E μ-COM.

(3) Check the Set-up process of F/E μ-COM.



Check Power Supply Voltages.
- [IC502]:
  +3.3V_D2, +1.8V_D2 O.K.?
  +3.3V_A2, +1.8V_A2 O.K.?

Check soldering
- [IC114], [IC115]
- FB405 and FB408.

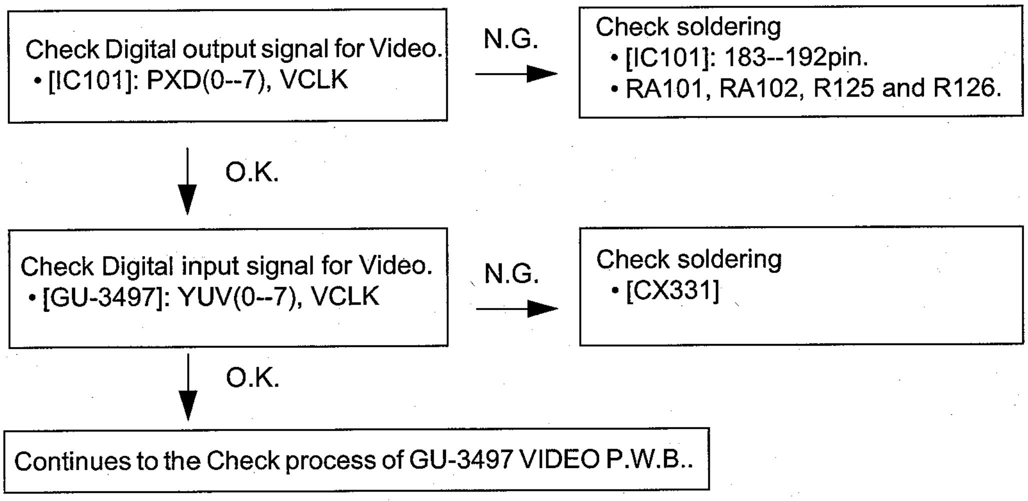
Check Clock waveform.
- [IC502]:33 pin.
  33.87MHz (3.3V), O.K.?

Check soldering
- [IC105]: 15pin.
- R171.
- [IC405], R697 and R574

Check Reset signal.
- [IC502]:(DRVRST) 51 pin.
  "H" level O.K.?

Check soldering
- [IC102]: 108pin.
- R129, R635 and R570.

1.2. Image is not displayed. (Blue-back, DENON wallpaper)



Check Digital output signal for Video.
- [IC101]: PXD(0--7), VCLK

Check soldering
- [IC101]: 183--192pin.
- RA101, RA102, R125 and R126.

Check Digital input signal for Video.
- [GU-3497]: YUV(0--7), VCLK

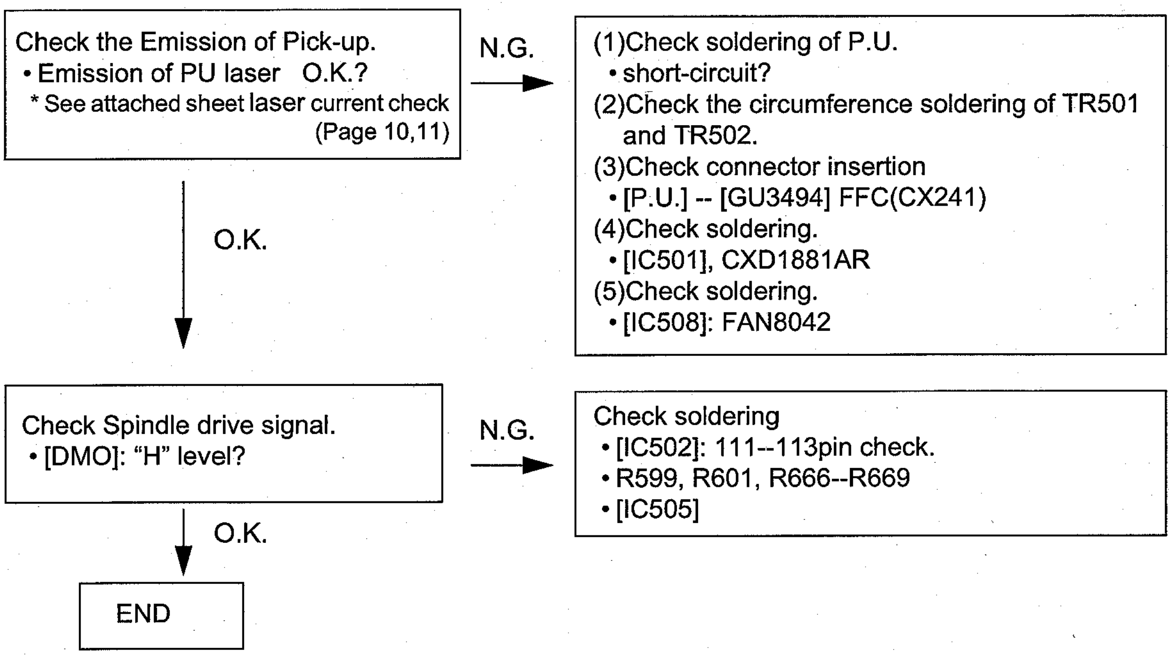
Check soldering
- [CX331]

Continues to the Check process of GU-3497 VIDEO P.W.B..

1.3. Does not Read Disc

[No PLAY], [00 00] displayed etc.

(1) Disc does not Rotate.



Check the Emission of Pick-up.
- Emission of PU laser O.K.?

* See attached sheet laser current check (Page 10,11)

N.G. →

(1)Check soldering of P.U.
- short-circuit?

(2)Check the circumference soldering of TR501 and TR502.

(3)Check connector insertion
- [P.U.] -- [GU3494] FFC(CX241)

(4)Check soldering.
- [IC501], CXD1881AR

(5)Check soldering.
- [IC508]: FAN8042

O.K. ↓

Check Spindle drive signal.
- [DMO]: "H" level?

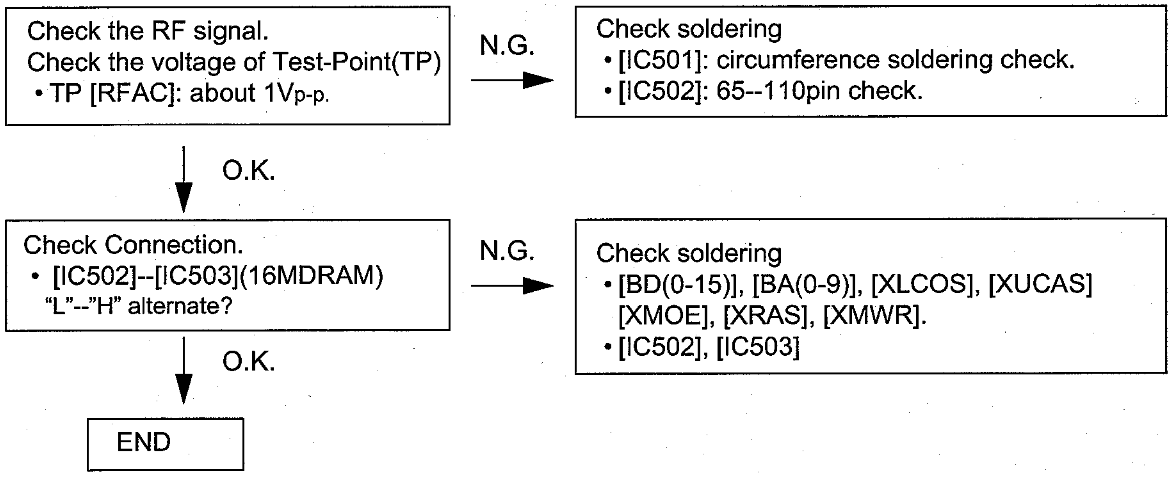
N.G. →

Check soldering
- [IC502]: 111--113pin check.
- R599, R601, R666--R669
- [IC505]

O.K. ↓

END

(2) CD check process



Check the RF signal.
Check the voltage of Test-Point(TP)
- TP [RFAC]: about 1Vp-p.

N.G. →

Check soldering
- [IC501]: circumference soldering check.
- [IC502]: 65--110pin check.

O.K. ↓

Check Connection.
- [IC502]--[IC503](16MDRAM) "L"--"H" alternate?

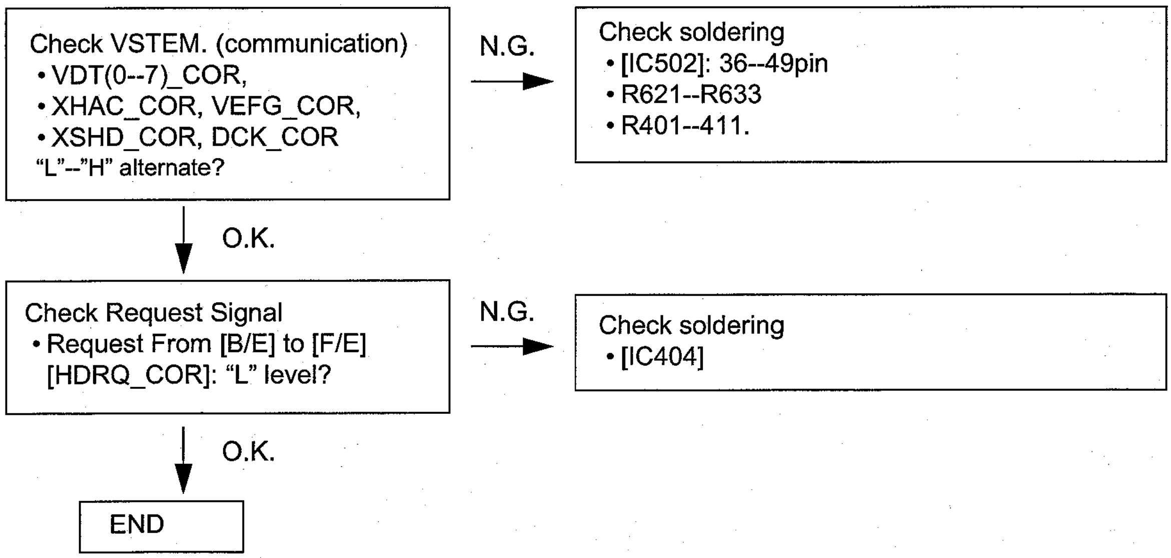
N.G. →

Check soldering
- [BD(0-15)], [BA(0-9)], [XLCOS], [XUCAS] [XMOE], [XRAS], [XMWR].
- [IC502], [IC503]

O.K. ↓

END

(3) DVD check process



Check VSTEM. (communication)
- VDT(0--7)_COR,
- XHAC_COR, VEFG_COR,
- XSHD_COR, DCK_COR

"L"--"H" alternate?

N.G. →

Check soldering
- [IC502]: 36--49pin
- R621--R633
- R401--411.

O.K. ↓

Check Request Signal
- Request From [B/E] to [F/E] [HDRQ_COR]: "L" level?

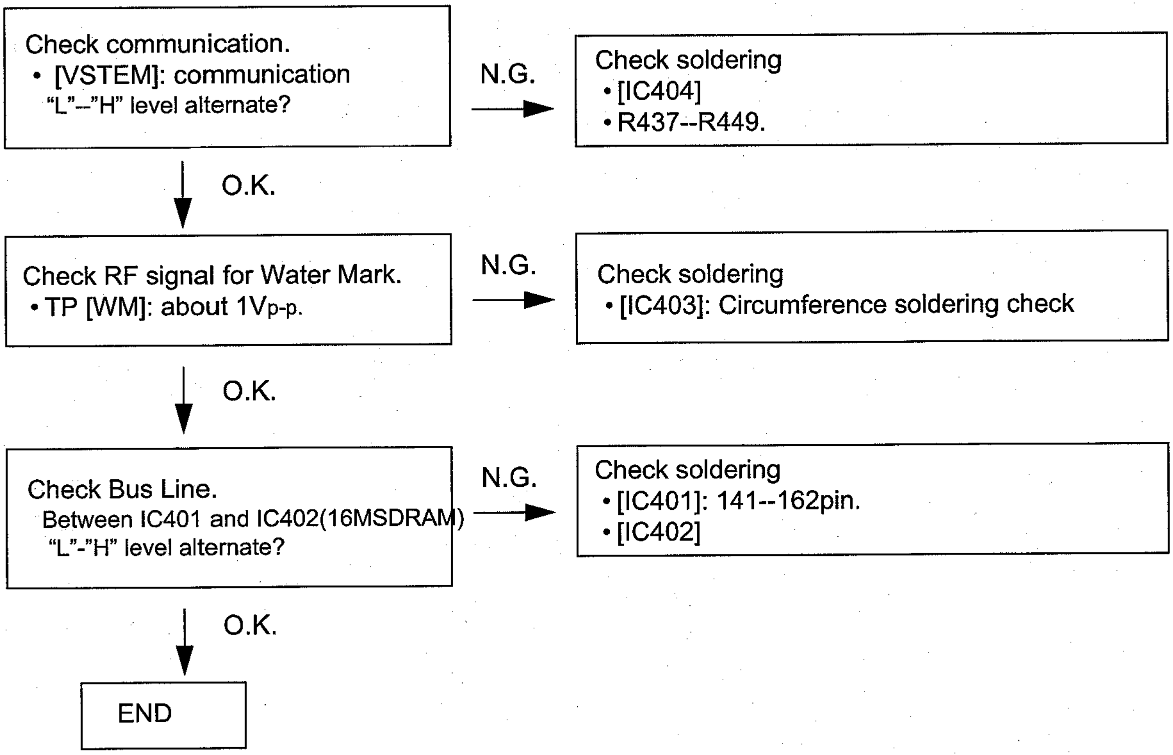
N.G. →

Check soldering
- [IC404]

O.K. ↓

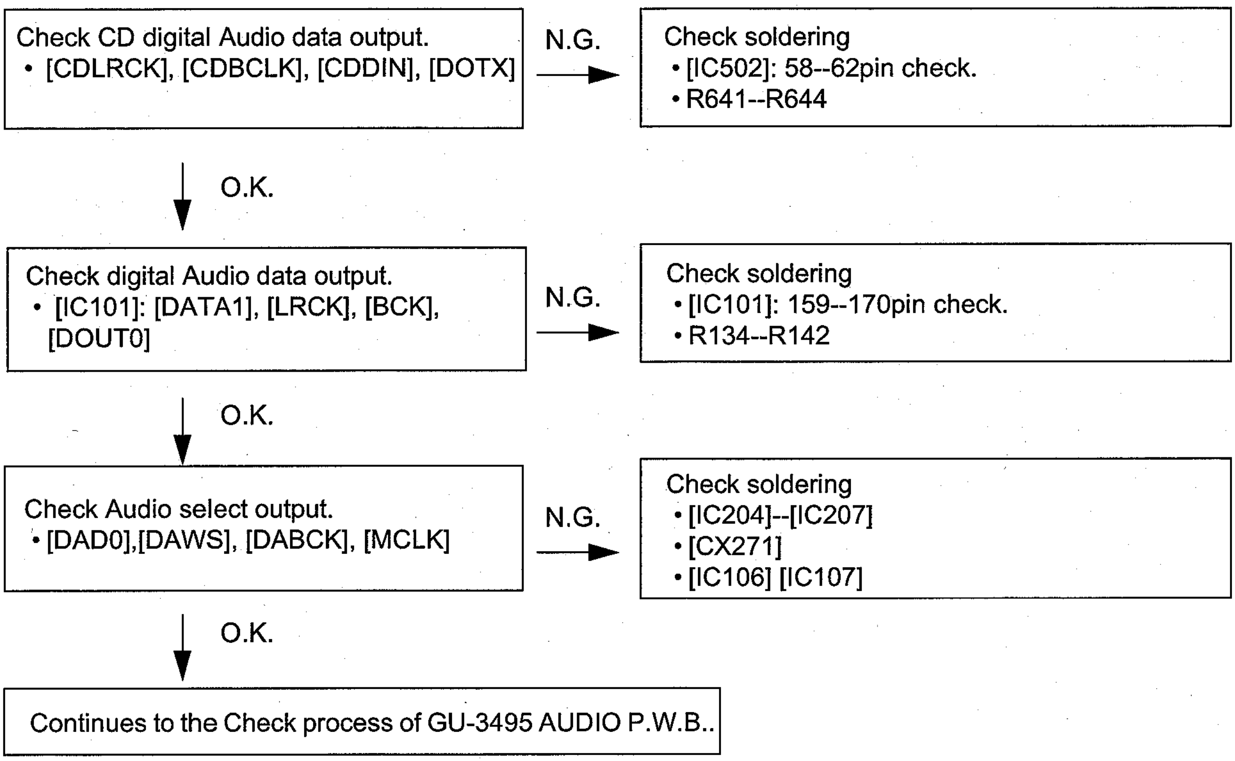
END

(4) SACD check process

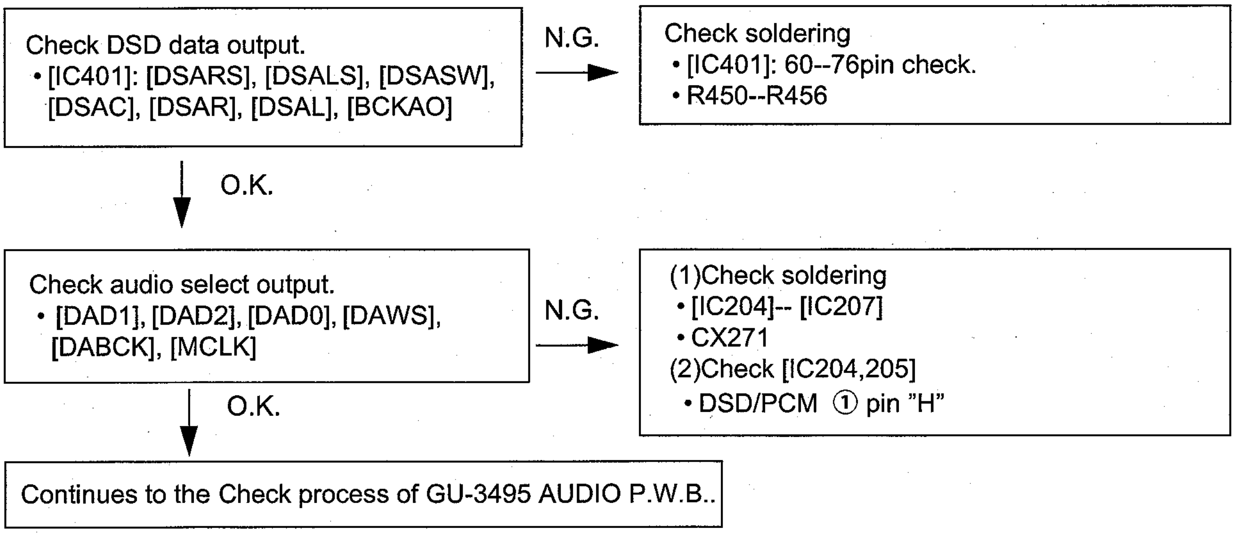

Check communication.
• [VSTEM]: communication
"L"--"H" level alternate?
N.G.
Check soldering
• [IC404]
• R437--R449.
O.K.
Check RF signal for Water Mark.
• TP [WM]: about 1Vp-p.
N.G.
Check soldering
• [IC403]: Circumference soldering check
O.K.
Check Bus Line.
Between IC401 and IC402(16MSDRAM)
"L"-"H" level alternate?
N.G.
Check soldering
• [IC401]: 141--162pin.
• [IC402]
O.K.
END

1.4. No sound, Noise generated

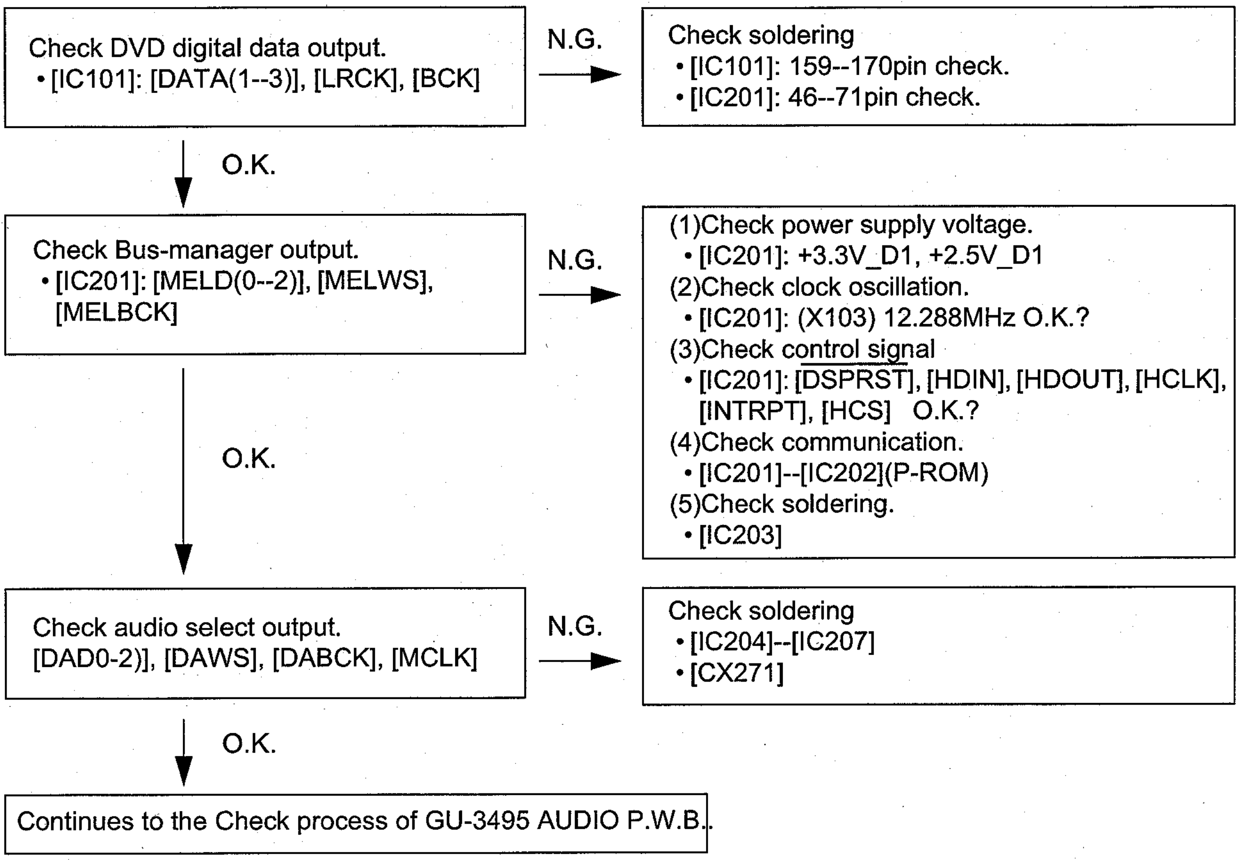
(1) CD


Check CD digital Audio data output.
• [CDLRCK], [CDBCLK], [CDDIN], [DOTX]
N.G.
Check soldering
• [IC502]: 58--62pin check.
• R641--R644
O.K.
Check digital Audio data output.
• [IC101]: [DATA1], [LRCK], [BCK], [DOUT0]
N.G.
Check soldering
• [IC101]: 159--170pin check.
• R134--R142
O.K.
Check Audio select output.
• [DAD0],[DAWS], [DABCK], [MCLK]
N.G.
Check soldering
• [IC204]--[IC207]
• [CX271]
• [IC106] [IC107]
O.K.
Continues to the Check process of GU-3495 AUDIO P.W.B..

(2) SACD


Check DSD data output.
• [IC401]: [DSARS], [DSALS], [DSASW], [DSAC], [DSAR], [DSAL], [BCKAO]
N.G.
Check soldering
• [IC401]: 60--76pin check.
• R450--R456
O.K.
Check audio select output.
• [DAD1], [DAD2], [DAD0], [DAWS], [DABCK], [MCLK]
N.G.
(1)Check soldering
• [IC204]-- [IC207]
• CX271
(2)Check [IC204,205]
• DSD/PCM ① pin "H"
O.K.
Continues to the Check process of GU-3495 AUDIO P.W.B..

(3) DVD-VIDEO / AUDIO


Check DVD digital data output.
• [IC101]: [DATA(1--3)], [LRCK], [BCK]
N.G.
Check soldering
• [IC101]: 159--170pin check.
• [IC201]: 46--71pin check.
O.K.
Check Bus-manager output.
• [IC201]: [MELD(0--2)], [MELWS], [MELBCK]
N.G.
(1)Check power supply voltage.
• [IC201]: +3.3V_D1, +2.5V_D1
(2)Check clock oscillation.
• [IC201]: (X103) 12.288MHz O.K.?
(3)Check control signal
• [IC201]: [DSPRST], [HDIN], [HDOUT], [HCLK], [INTRPT], [HCS] O.K.?
(4)Check communication.
• [IC201]--[IC202](P-ROM)
(5)Check soldering.
• [IC203]
O.K.
Check audio select output.
[DAD0-2)], [DAWS], [DABCK], [MCLK]
N.G.
Check soldering
• [IC204]--[IC207]
• [CX271]
O.K.
Continues to the Check process of GU-3495 AUDIO P.W.B.

2. GU-3495 AUDIO P.W.B.

2.1. No sound or Noise generated at audio output terminal.

(1) Check Audio Output terminal, then Input pin of ICs.

• FL, FR → IC206 Audio input check   See attached sheet waveform (Page 115 ①~④)
CNT,SW → IC209 Audio input check
• SL, SR → IC212 Audio input check

(2) Check MUTE Circuit and Transistors.

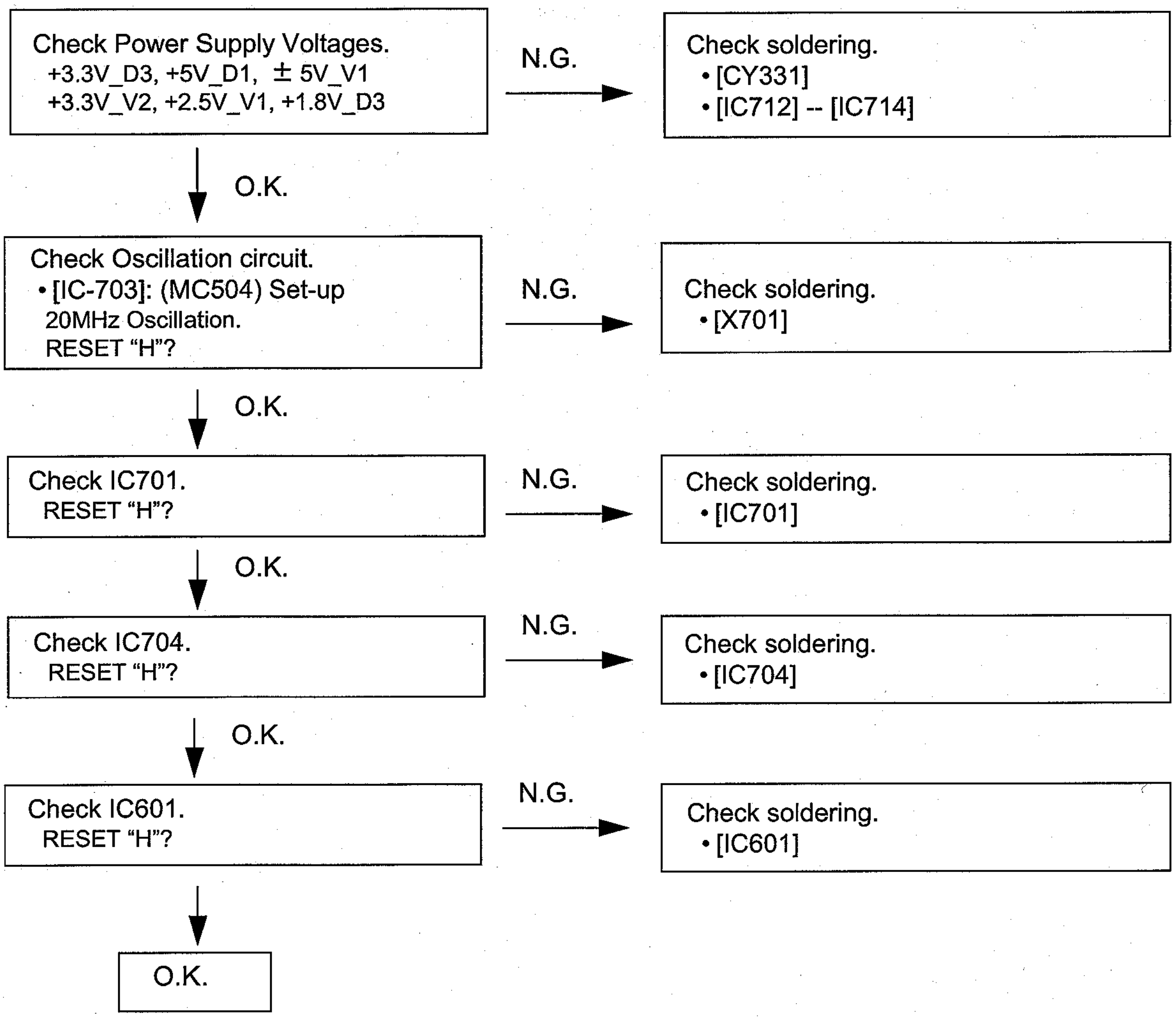
• Check MUTE circuit → Check Transistors
(TR217--TR220, TR211--TR226)

2.2. Does not output Digital output signal(DOUT).

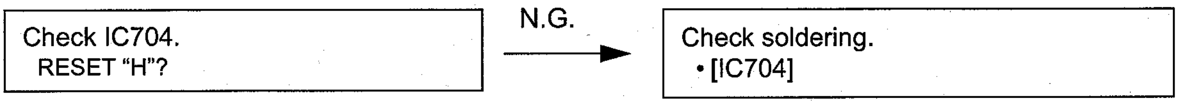
Check belows
[IC201], [IC202]
[T201]

3. GU-3497 VIDEO PWB

(1) Progressive output does not outputed.


Check Power Supply Voltages.
+3.3V_D3, +5V_D1, ± 5V_V1
+3.3V_V2, +2.5V_V1, +1.8V_D3
N.G.
Check soldering.
• [CY331]
• [IC712] -- [IC714]
O.K.
Check Oscillation circuit.
• [IC-703]: (MC504) Set-up
20MHz Oscillation.
RESET "H"?
N.G.
Check soldering.
• [X701]
O.K.
Check IC701.
RESET "H"?
N.G.
Check soldering.
• [IC701]
O.K.
Check IC704.
RESET "H"?
N.G.
Check soldering.
• [IC704]
O.K.
Check IC601.
RESET "H"?
N.G.
Check soldering.
• [IC601]
O.K.

(2) Interlace output does not outputed.


Check IC704.
RESET "H"?
N.G.
Check soldering.
• [IC704]

ELECTRICAL ADJUSTMENT FOR VIDEO

1. SETTING

(1) Connect the monitor TV to the video output terminal.
(2) Connect the oscilloscope to the Y-signal and C-signal of S-VIDEO output terminal and each terminate at 75 Ohms.
(3) Connect the oscilloscope to the Y-signal, PB-signal and PR-signal of Component video output terminal and each terminate at 75 Ohms.
 ※ **Use the 75 Ohms resistance must be 1%**
(4) DVD test disc : DVDT-S01

2. BEFORE ADJUSTMENT

2.1. Setting the Oscilloscope as below.

(1) PB/PR
 (a) TIME/DIV : 2μS
 (b) VOLT/DIV : 100mV
 (Use the probe : x10)
(2) Y/C
 (a) TIME/DIV : 2μS
 (b) VOLT/DIV : 50mV
 (Use the probe : x10)

Power on. Power Supply

USA & Canada	:	120V
Europe	:	230V
Japan	:	100V

2.2. Preparation

(1) power on.
(2) Set the [SOURCE] selector knob : DVD
(3) Push [OPEN/CLOSE] button, then open the Disc Tray.
(4) Set DVD test disc (DVDT-S01) on the Disc Tray, and then push [CLOSE] button.
(5) FL display appear "STOP", push [PLAY] button to playback DVD.
(6) Set the Video output to INTERLACED by remote control unit.
 (Push the [SETUP] button, set to the mode of VIDEO SETUP.)
(7) Push the [DISPLAY] button of remote control unit and then appear the ON-Screen Display (GUI) on the monitor TV.
(8) Push the [12] button, select title 12 of DVD.
(9) Push the [ENTER] button, playback title 12. (color bar 75%)

ビデオ回路の調整

1. セッティング手順

(1) セットのVIDEO OUT端子にテレビモニターを接続する。
(2) セットのS2 VIDEO OUT端子からY信号とC信号をそれぞれオシロスコープ（終端抵抗：75Ω）に接続する。
(3) セットのCOMPONENT VIDEO OUTの各端子（Y/PB/PR）をそれぞれオシロスコープ（終端抵抗：75Ω）に接続する。
 ※ 75Ω抵抗は1%品を使用する事。
(4) DVDテストディスク：DVDT-S01を用意する。

2. 調整のまえに

2.1. オシロスコープを下記に設定する。

(1) PB/PR/
 (a) TIME/DIV : 2μS
 (b) VOLT/DIV : 100mV
 (プローブx10使用)
(2) Y
 (a) TIME/DIV : 2μS
 (b) VOLT/DIV : 50mV
 (プローブx10使用)
 電源電圧 ：100V

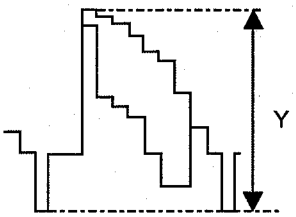
2.2. 準備手順

(1) セットのACコードをコンセントへ挿入し、セットの電源をONする。
(2) セットの「OPEN/CLOSE」ボタンを押しトレイを開き、トレイ上にDVDテストディスク（DVDT-S1）をセット後、「CLOSE]ボタンを押す。
(3) セット表示管上に"STOP"が表示されてから、PLAYボタンを押し、ディスクを再生する。
(4) リモコンでVIDEO出力をインターレースモードに設定する。
(5) リモコンのDISPLAYボタンを押しグラフィカル・ユーザー・インターフェイス(GUI)画面を出す。
(6) 番号ボタンの「12」ボタンを押し、Title 12を選択する。
(7) 「ENTER」ボタンを押し、Title 12を再生する（75%カラーバー信号)。

2.3. Procedure

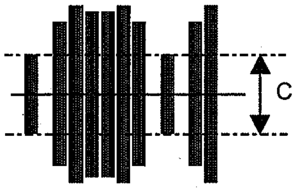
(1) Adjust the signal of S-VIDEO out by the wave of oscilloscope.

(a) Target, Y-signal
Point : VR704
Adjustment Value : 1000 ± 20mV
Waveform



Y-signal of S-VIDEO out

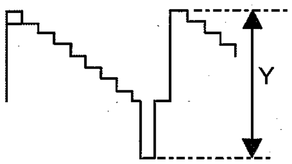
(b) Target, C-signal
Point : VR705
Adjustment Value : 286 ± 5mV
Waveform



C-signal of S-VIDEO out

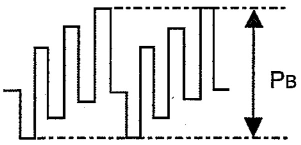
(2) Set the Video output to PROGRESSIVE by remote control unit. (Push the [SETUP] button, set to the mode of VIDEO SETUP.)

(a) Target, Y-signal
Point : VR701
Adjustment Value : 1000 ± 20mV
Waveform



Y-signal

(b) Target, PB-signal
Point : VR702
Adjustment Value : *525 ± 10mV
Waveform

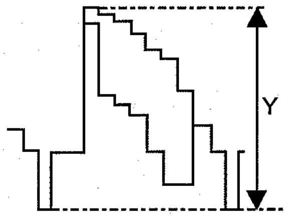


PB-signal

2.3. 手順

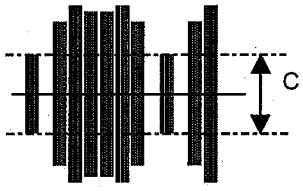
(1) セットのS2 VIDEO OUTの信号レベルをオシロスコープ上の波高値で調整する。

(a) Y信号レベル
調整個所 : VR704
調整値 : 1000 ± 20mV
波形



S2 VIDEO OUTのY信号レベル

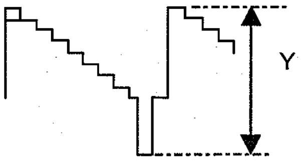
(b) C信号レベル
調整個所 : VR705
調整値 : 286 ± 5mV
波形



S2 VIDEO OUTのC信号レベル

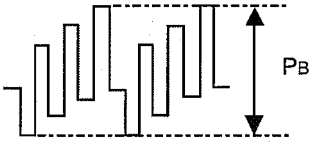
(2) リモコンでVIDEO出力をプログレッシブモードに設定する。

(a) Y信号レベル
調整個所 : VR701
調整値 : 1000 ± 20mV
波形



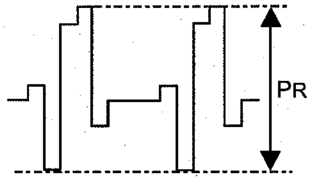
プログレッシブのY信号レベル

(b) PB信号レベル
調整個所 : VR702
調整値 : 525 ± 10mV
波形



PB信号レベル

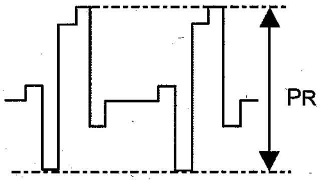
(c) Target, PR-signal
Point : VR703
Adjustment Value : *525 ± 10mV
Waveform



PR-signal

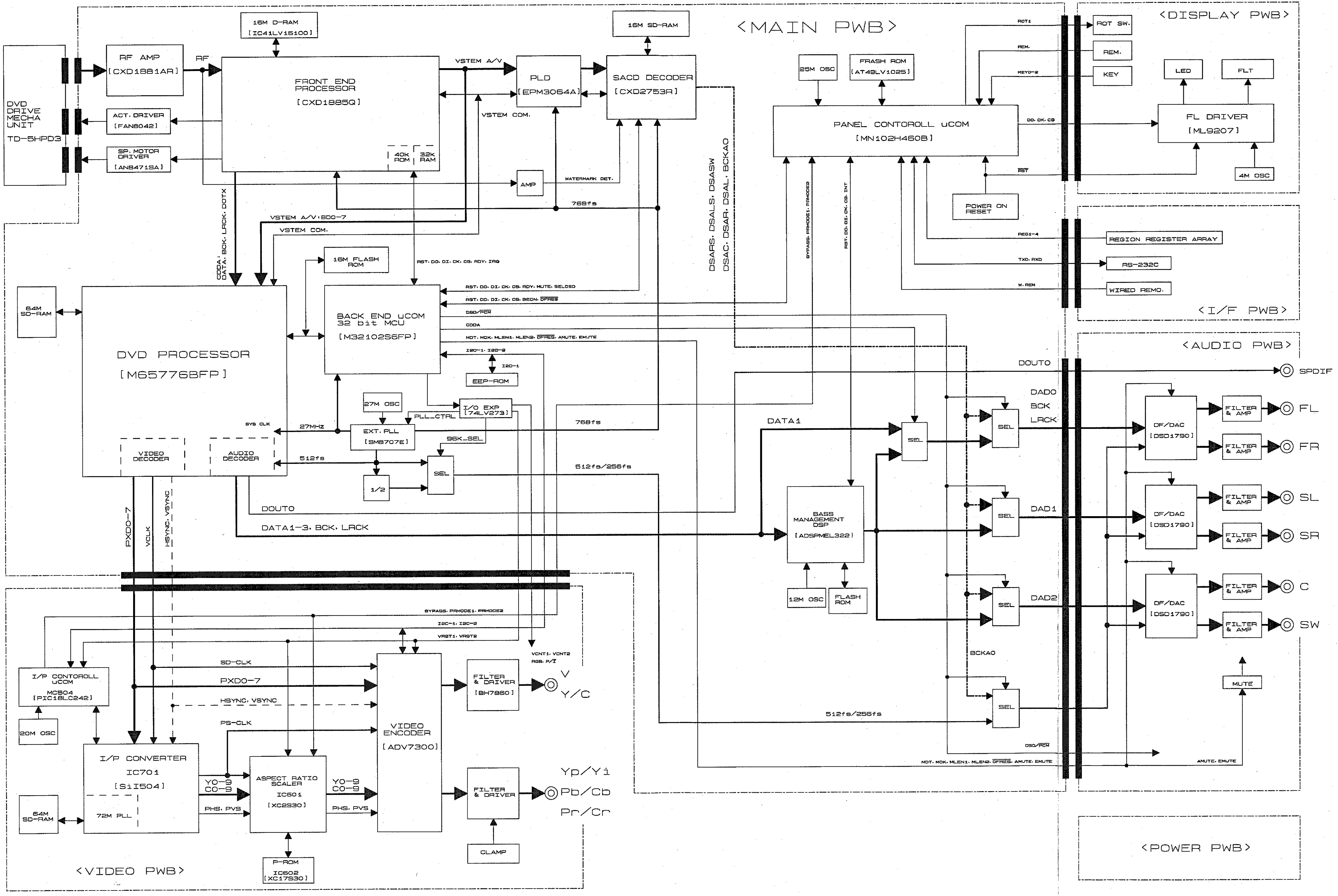
* : 486 ± 10mV for U.S.A. & Canada model

(c) PR 信号レベル
調整個所 : VR703
調整値 : 525 ± 10mV
波形



PR- 信号レベル

BLOCK DIAGRAM


DVD DRIVE MECHA UNIT
TD-5HPD3
RF AMP [CXD1881AR]
ACT. DRIVER [FAN8042]
SP. MOTOR DRIVER [AN8471SA]
RF
16M D-RAM [IC41LV15100]
FRONT END PROCESSOR [CXD1885Q]
40K ROM
32k RAM
VSTEM A/V
VSTEM COM.
PLD [EPM3064A]
16M SD-RAM
SACD DECODER [CXD2753R]
AMP
WATERMARK DET.
768fs
<MAIN PWB>
25M OSC
FRASH ROM [AT49LV1025]
PANEL CONTOROLL uCOM [MN102H460B]
POWER ON RESET
DSARS, DSALS, DSASW
DSAC, DSAR, DSAL, BCKA0
CDDA, DATA, BCK, LRCK, DOTX
VSTEM A/V:BD0-7
VSTEM COM.
16M FLASH ROM
RST, D0, DI, CK, CS, RDY, IRQ
64M SD-RAM
DVD PROCESSOR [M65776BFP]
BACK END uCOM 32 bit MCU [M32102S6FP]
RST, D0, DI, CK, CS, RDY, MUTE, SELDSD
RST, D0, DI, CK, CS, BEON, DFREQ
DSD/PCM
CDDA
MDT, MCK, MLEN1, MLEN2, DFREQ, AMUTE, EMUTE
I2C-1, I2C-2
I2C-1
EEP-ROM
27M OSC
I/O EXP [74LV273]
PLL_CTRL
SYS CLK
27MHz
EXT. PLL [SM8707E]
96K_SEL
VIDEO DECODER
AUDIO DECODER
512fs
1/2
SEL
512fs/256fs
DOUTO
DATA1-3, BCK, LRCK
PXD0-7
VCLK
HSYNC, VSYNC
BYPASS, PRMODE1, PRMODE2
RST, D0, DI, CK, CS, INT
ROT1
REM.
KEY0-2
D0, CK, CS
RST
REG1-4
TXD, RXD
W. REM
ROT SW.
REM.
KEY
<DISPLAY PWB>
LED
FLT
FL DRIVER [ML9207]
4M OSC
REGION REGISTER ARRAY
RS-232C
WIRED REMO.
<I/F PWB>
<AUDIO PWB>
DOUTO
SPDIF
DADO
BCK
LRCK
DATA1
SEL
DF/DAC [DSD1790]
FILTER & AMP
FL
FR
SL
SR
C
SW
DAD1
DAD2
BASS MANAGEMENT DSP [ADSPMEL322]
12M OSC
FLASH ROM
BCKA0
512fs/256fs
DSD/PCM
MDT, MCK, MLEN1, MLEN2, DFREQ, AMUTE, EMUTE
AMUTE, EMUTE
MUTE
BYPASS, PRMODE1, PRMODE2
I2C-1, I2C-2
VRST1, VRST2
VCNT1, VCNT2
RGB, P/I
I/P CONTOROLL uCOM MC504 [PIC16LC242]
20M OSC
SD-CLK
PXD0-7
HSYNC, VSYNC
PS-CLK
VIDEO ENCODER [ADV7300]
FILTER & DRIVER [BH7860]
V
Y/C
I/P CONVERTER IC701 [SiI504]
72M PLL
64M SD-RAM
Y0-9
C0-9
PHS, PVS
ASPECT RATIO SCALER IC601 [XC2S30]
P-ROM IC602 [XC17S30]
FILTER & DRIVER
CLAMP
Yp/Yi
Pb/Cb
Pr/Cr
<VIDEO PWB>
<POWER PWB>

SEMICONDUCTORS

Only major semiconductors are shown, general semiconductors etc. are omitted to list.
主な半導体を記載しています。汎用の半導体は記載を省略しています。

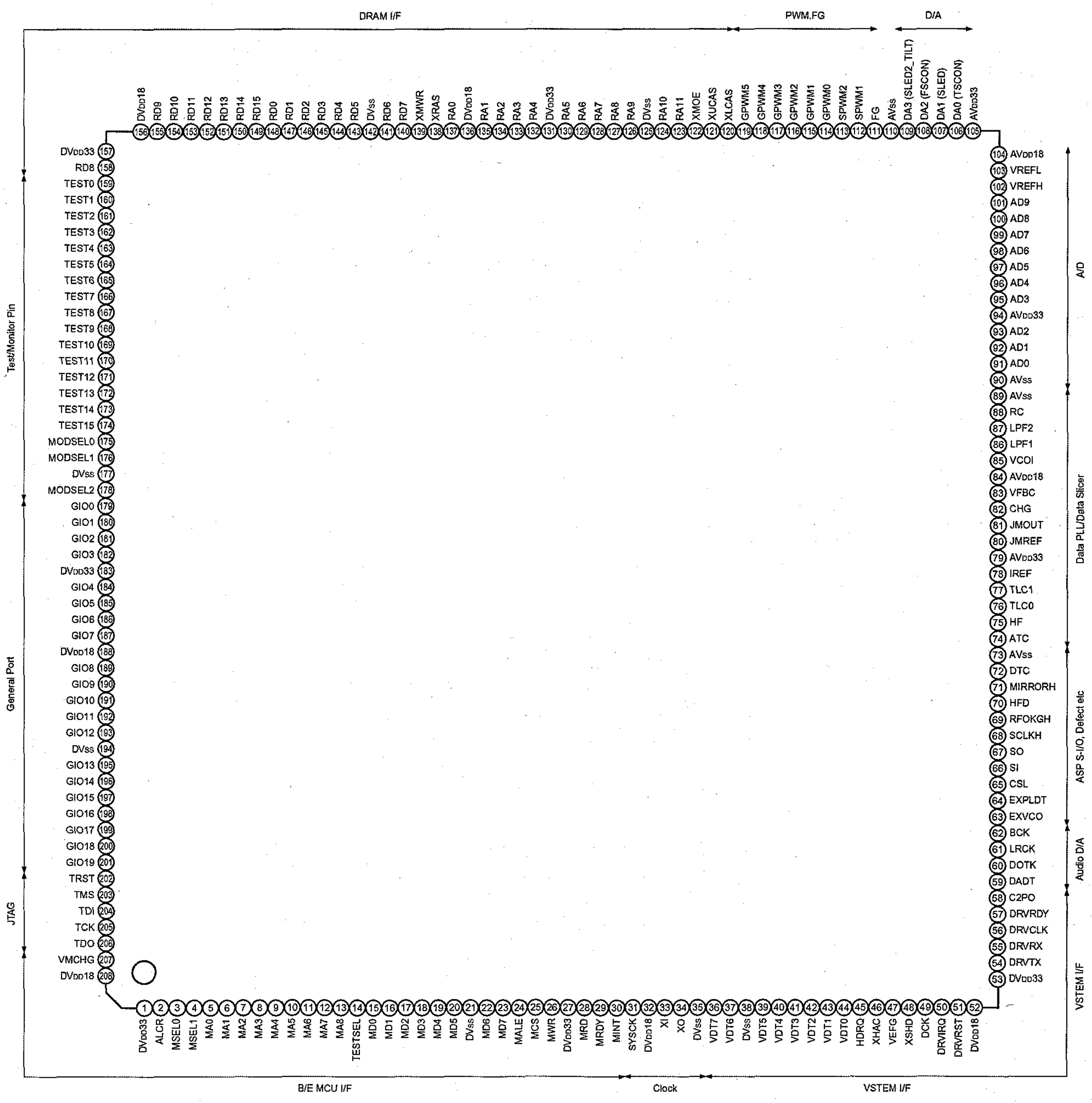
1. IC's

Note: Abbreviation ahead of IC No. indicates the name of P.W.B., etc.
注）: IC No. の前の記号は、基板の名称を表します。

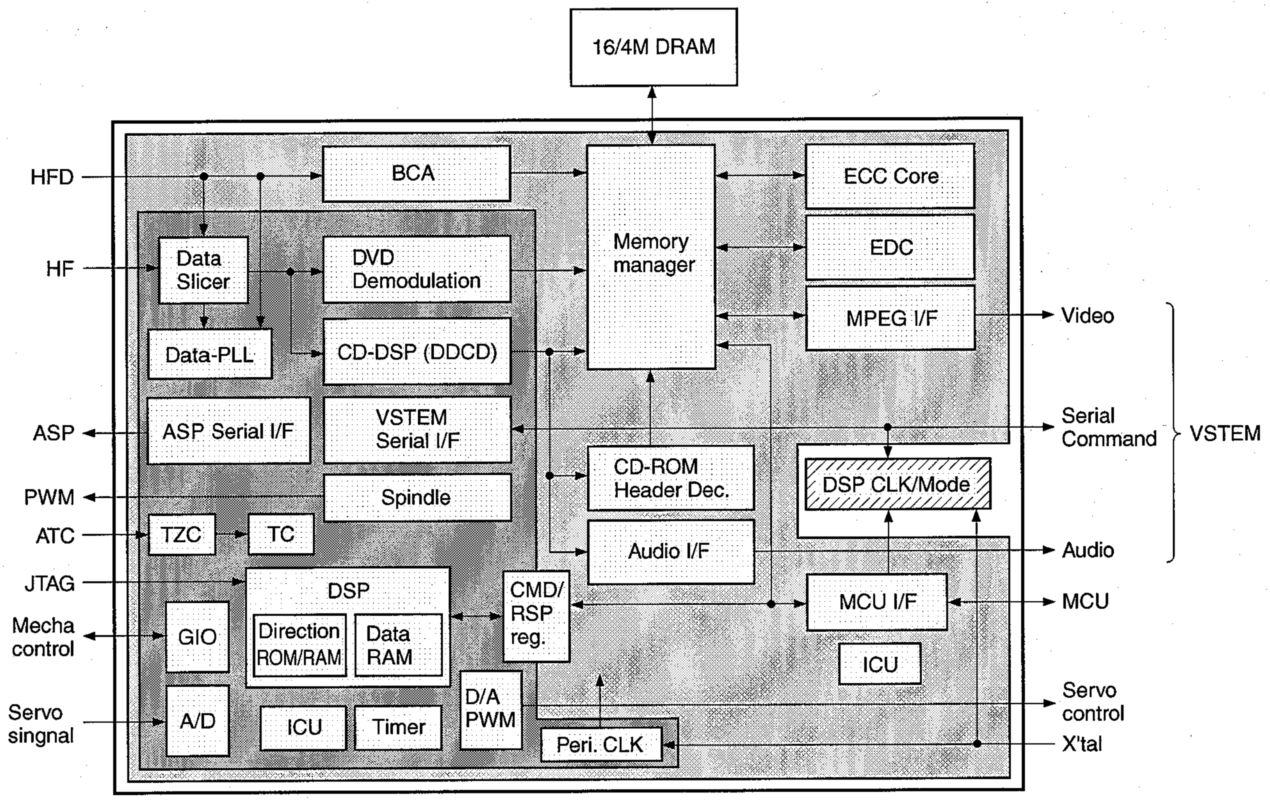
MA: Main P.W.B.	AU: Audio P.W.B.
PD: Power/Display P.W.B.	VI: Video P.W.B.
SC: Scart P.W.B. (for Europe model)	

CXD1885Q (MA: IC502)

Top View


DRAM I/F
PWM.FG
D/A
156 DVDD18
155 RD9
154 RD10
153 RD11
152 RD12
151 RD13
150 RD14
149 RD15
148 RD0
147 RD1
146 RD2
145 RD3
144 RD4
143 RD5
142 DVss
141 RD6
140 RD7
139 XMWR
138 XRAS
137 RA0
136 DVDD18
135 RA1
134 RA2
133 RA3
132 RA4
131 DVDD33
130 RA5
129 RA6
128 RA7
127 RA8
126 RA9
125 DVss
124 RA10
123 RA11
122 XMOE
121 XUCAS
120 XLCAS
119 GPWM5
118 GPWM4
117 GPWM3
116 GPWM2
115 GPWM1
114 GPWM0
113 SPWM2
112 SPWM1
111 FG
110 AVss
109 DA3 (SLED2_TILT)
108 DA2 (FSCON)
107 DA1 (SLED)
106 DA0 (TSCON)
105 AVDD33
Test/Monitor Pin
General Port
JTAG
157 DVDD33
158 RD8
159 TEST0
160 TEST1
161 TEST2
162 TEST3
163 TEST4
164 TEST5
165 TEST6
166 TEST7
167 TEST8
168 TEST9
169 TEST10
170 TEST11
171 TEST12
172 TEST13
173 TEST14
174 TEST15
175 MODSEL0
176 MODSEL1
177 DVss
178 MODSEL2
179 GIO0
180 GIO1
181 GIO2
182 GIO3
183 DVDD33
184 GIO4
185 GIO5
186 GIO6
187 GIO7
188 DVDD18
189 GIO8
190 GIO9
191 GIO10
192 GIO11
193 GIO12
194 DVss
195 GIO13
196 GIO14
197 GIO15
198 GIO16
199 GIO17
200 GIO18
201 GIO19
202 TRST
203 TMS
204 TDI
205 TCK
206 TDO
207 VMCHG
208 DVDD18
A/D
Data PLL/Data Slicer
ASP S-I/O, Defect etc
Audio D/A
VSTEM I/F
104 AVDD18
103 VREFL
102 VREFH
101 AD9
100 AD8
99 AD7
98 AD6
97 AD5
96 AD4
95 AD3
94 AVDD33
93 AD2
92 AD1
91 AD0
90 AVss
89 AVss
88 RC
87 LPF2
86 LPF1
85 VCOI
84 AVDD18
83 VFBC
82 CHG
81 JMOUT
80 JMREF
79 AVDD33
78 IREF
77 TLC1
76 TLC0
75 HF
74 ATC
73 AVss
72 DTC
71 MIRRORH
70 HFD
69 RFOKGH
68 SCLKH
67 SO
66 SI
65 CSL
64 EXPLDT
63 EXVCO
62 BCK
61 LRCK
60 DOTK
59 DADT
58 C2PO
57 DRVRDY
56 DRVCLK
55 DRVRX
54 DRVTX
53 DVDD33
1 DVDD33
2 ALCR
3 MSEL0
4 MSEL1
5 MA0
6 MA1
7 MA2
8 MA3
9 MA4
10 MA5
11 MA6
12 MA7
13 MA8
14 TESTSEL
15 MD0
16 MD1
17 MD2
18 MD3
19 MD4
20 MD5
21 DVss
22 MD6
23 MD7
24 MALE
25 MCS
26 MWR
27 DVDD33
28 MRD
29 MRDY
30 MINT
31 SYSCK
32 DVDD18
33 XI
34 XO
35 DVss
36 VDT7
37 VDT6
38 DVss
39 VDT5
40 VDT4
41 VDT3
42 VDT2
43 VDT1
44 VDT0
45 HDRQ
46 XHAC
47 VEFG
48 XSHD
49 DCK
50 DRVIRQ
51 DRVRST
52 DVDD18
B/E MCU I/F
Clock
VSTEM I/F

Block Diagram


16/4M DRAM
HFD
HF
ASP
PWM
ATC
JTAG
Mecha control
Servo singnal
BCA
Data Slicer
DVD Demodulation
Data-PLL
CD-DSP (DDCD)
ASP Serial I/F
VSTEM Serial I/F
Spindle
TZC
TC
DSP
Direction ROM/RAM
Data RAM
GIO
A/D
ICU
Timer
D/A PWM
CMD/ RSP reg.
Peri. CLK
Memory manager
CD-ROM Header Dec.
Audio I/F
ECC Core
EDC
MPEG I/F
DSP CLK/Mode
MCU I/F
ICU
Video
Serial Command
VSTEM
Audio
MCU
Servo control
X'tal

Functions

(A/D : Analog/Digital, PU : Pull-up, PD : Pull-down, SMT=Schumitt)

No.	Terminal Name	I/O	A/D	Classification	Function	PU	PD	SMT
1	DVDD33	P		VDD & GND	Digital 3.3V Power for I/O.			
2	ALCR	I	D	MCU I/F	Chip select input. (L: Reset)	*		*
3	MSEL0	I	D	MCU I/F	MCU I/F mode select 0.			*
4	MSEL1	I	D	MCU I/F	MCU I/F mode select 1.			*
5	MA0	I/O	D	MCU I/F	MCU Adress input 0 / data I/O 0 <LSB>.			*
6	MA1	I/O	D	MCU I/F	MCU Adress input 1 / data I/O 1.			*
7	MA2	I/O	D	MCU I/F	MCU Adress input 2 / data I/O 2.			*
8	MA3	I/O	D	MCU I/F	MCU Adress input 3 / data I/O 3.			*
9	MA4	I/O	D	MCU I/F	MCU Adress input 4 / data I/O 4.			*
10	MA5	I/O	D	MCU I/F	MCU Adress input 5 / data I/O 5.			*
11	MA6	I/O	D	MCU I/F	MCU Adress input 6 / data I/O 6.			*
12	MA7	I/O	D	MCU I/F	MCU Adress input 7 / data I/O 7.			*
13	MA8	I	D	MCU I/F	MCU Adress input 8 <MSB>.			*
14	TESTSEL	I	D	MCU I/F	TEST Select input.			*
15	MD0	I/O	D	MCU I/F	MCU data I/O 0 <LSB>.			*
16	MD1	I/O	D	MCU I/F	MCU data I/O 1.			*
17	MD2	I/O	D	MCU I/F	MCU data I/O 2.			*
18	MD3	I/O	D	MCU I/F	MCU data I/O 3.			*
19	MD4	I/O	D	MCU I/F	MCU data I/O 4.			*
20	MD5	I/O	D	MCU I/F	MCU data I/O 5.			*
21	DVss	P		VDD & GND	Digital Ground.			
22	MD6	I/O	D	MCU I/F	MCU data I/O 6.			*
23	MD7	I/O	D	MCU I/F	MCU data I/O 7 <MSB>.			*
24	MALE	I	D	MCU I/F	MCU Adress latch signal input.			*
25	MCS	I	D	MCU I/F	MCU Chip Select signal input.			*
26	MWR	I	D	MCU I/F	MCU Write strobe signal.			*
27	DVDD33	P		VDD & GND	digital 3.3V Power. (for I/O)			
28	MRD	I	D	MCU I/F	MCU Read Strobe signal.			*
29	MRDY	O	D	MCU I/F	MCU Ready signal. (L: Wait)			
30	MINT	O	D	MCU I/F	MCU Interrupt signal. (L: Interrupt request)			

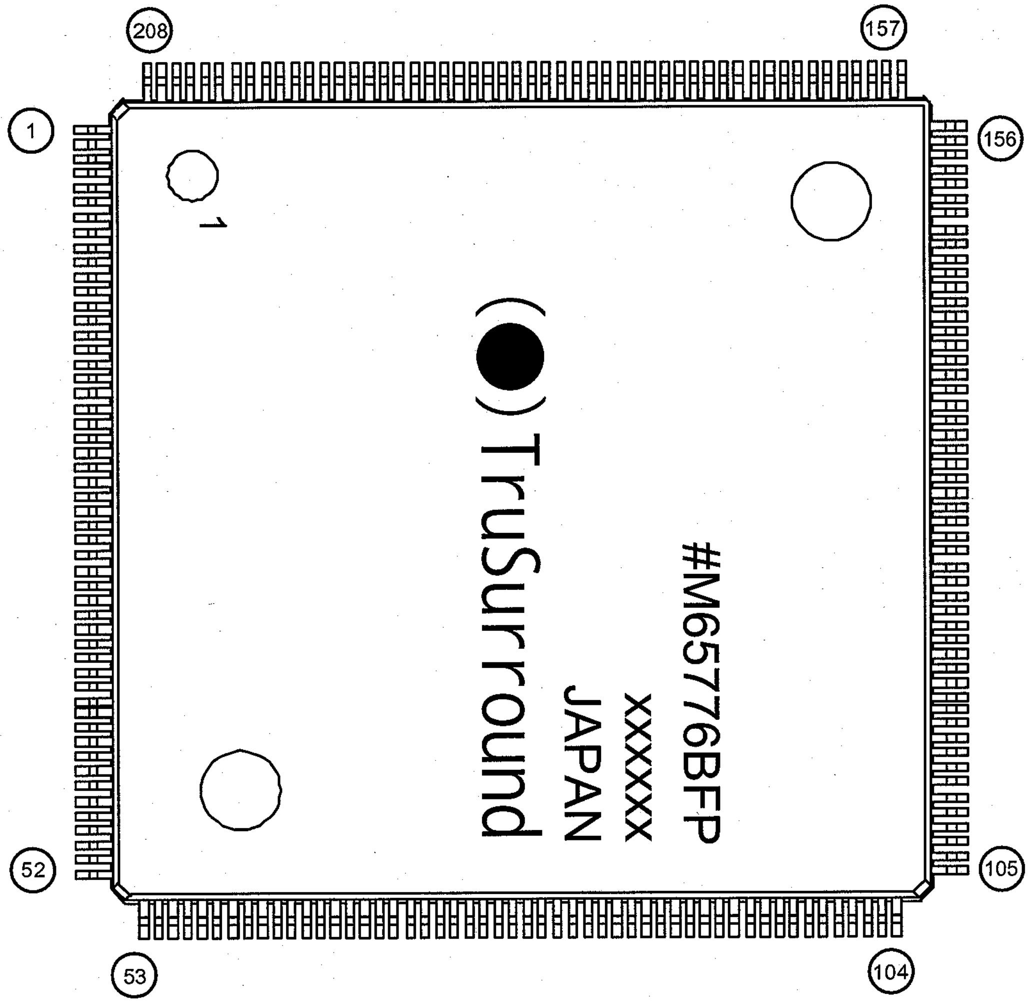
No.	Terminal Name	I/O	A/D	Classification	Function	PU	PD	SMT
31	SYSCK	O	D	Clock	Clock Monitor output.			
32	DVDD18	P		VDD & GND	Digital 1.8V Power. (Internal logic system power)			
33	XI	I	D	Clock	Crystal oscillation input.			
34	XO	O	D	Clock	Crystal oscillation output.			
35	DVss	P		VDD & GND	Digital Ground.			
36	VDT7	O	D	VSTEM A/V	MPEG data output 7.			
37	VTD6	O	D	VSTEM A/V	MPEG data output 6.			
38	DVss	P		VDD & GND	Digital Ground.			
39	VDT5	O	D	VSTEM A/V	MPEG data output 5.			
40	VDT4	O	D	VSTEM A/V	MPEG data output 4.			
41	VDT3	O	D	VSTEM A/V	MPEG data output 3.			
42	VDT2	O	D	VSTEM A/V	MPEG data output 2.			
43	VDT1	O	D	VSTEM A/V	MPEG data output 1.			
44	VDT0	O	D	VSTEM A/V	MPEG data output 0.			
45	HDRQ	I	D	VSTEM A/V	MPEG data Request input.	*		
46	XHAC	O	D	VSTEM A/V	Data Valid output.			
47	VEFG	O	D	VSTEM A/V	ECC Error-sector Flag output. (L: error sector)			
48	XSHD	O	D	VSTEM A/V	DVD Sector Head Flag output.			
49	DCK	O	D	VSTEM A/V	Data Strobe output.			
50	DRVIRQ	O	D	VSTEM Command	Interrupt Request output for Host. (L: interruption is demanded)			
51	DRVRST	I	D	VSTEM Command	Drive H/W Reset input. (L: reset)	*		*
52	DVDD18	P		VDD & GND	Digital 1.8V power for Internal logic system.			
53	DVDD33	P		VDD & GND	Digital 3.3V Power for I/O.			
54	DRVTX	O	D	VSTEM Command	Transmitting serial data output to Host.			
55	DRVRX	I	D	VSTEM Command	Reception serial data input from Host.			
56	DRVCLK	I	D	VSTEM Command	Clock input from Host.			*
57	DRVRDY	O	D	VSTEM Command	Drive Ready signal output. (L: ready)			
58	C2PO	O	D	Audio I/F	CD-DSP C2 Pointer output.			
59	DADT	O	D	Audio I/F	Audio serial data output.			
60	DOTX	O	D	Audio I/F	Digital audio output.			
61	LRCK	O	D	Audio I/F	L/R Clock output.			
62	BCK	O	D	Audio I/F	Audio Bit Clock output.			
63	EXVCO	I	D	TEST/Monitor	External Channel clock input.			
64	EXPLDT	I	D	TEST/Monitor	External RF data input. (Logic level)			
65	CSL	O	D	ASP I/F	SIO for RF signal processing LSI control. Latch signal output.			
66	SI	I	D	ASP I/F	SIO for RF signal processing LSI control. Serial data input.			
67	SO	O	D	ASP I/F	SIO for RF signal processing LSI control. Serial data output.			
68	SCLKH	O	D	ASP I/F	SIO for RF signal processing LSI control. Serial clock output.			
69	RFOKGH	I	D	ASP I/F	RF O.K. Signal input.			*
70	HFD	I	D	ASP I/F	RF lack Signal input.			*
71	MIRRORH	I	D	ASP I/F	Mirror detected signal input.(H: Mirror detected)			*
72	DTC	I	D	ASP I/F	Track cross signal input. (Logic level input)			*
73	AVss	P		VDD & GND	Analog Ground.			
74	ATC	I	A	Data PLL	Track Cross signal input. (Analog level input)			
75	HF	I	A	Data PLL	RF signal input.			
76	TLC0	O	A	Data PLL	Asymmetry Charge-pump output 0.			
77	TLC1	O	A	Data PLL	Asymmetry Charge-pump output 1			
78	IREF	I	A	Data PLL	Reference current setting terminal for Asymmetry Circuit.			
79	AVDD33	P		VDD & GND	Analog 3.3V Power.			
80	JMREF	I	A	Data PLL	Reference current setting terminal for Jitter Monitor			
81	JMOUT	O	A	Data PLL	Jitter Monitor output.			
82	CHG	I	A	Data PLL	Reference current setting terminal for data PLL.			
83	VFBC	I	A	Data PLL	VCO offset frequency setting terminal for data PLL.			
84	AVDD18	P		VDD & GND	Analog 1.8V Power.			
85	VCOI	I	A	Data PLL	VCO Control voltage input terminal for data PLL.			
86	LPF1	O	A	Data PLL	VCO Loop-filter connection terminal 1 for data PLL.			
87	LPF2	O	A	Data PLL	VCO Loop-filter connection terminal 2 for data PLL			
88	RC	I	A	Data PLL	VCO gain setting terminal for data PLL.			
89	AVss	P		VDD & GND	Analog Ground.			
90	AVss	P		VDD & GND	Analog Ground.			
91	AD0	I	A	ADC	AD0 Input.			

No.	Terminal Name	I/O	A/D	Classification	Function	PU	PD	SMT
92	AD1	I	A	ADC	AD1 Input.			
93	AD2	I	A	ADC	AD2 Input.			
94	AVDD33	P		VDD & GND	Analog 3.3V Power.			
95	AD3	I	A	ADC	AD3 Input.			
96	AD4	I	A	ADC	AD4 Input.			
97	AD5	I	A	ADC	AD5 Input.			
98	AD6	I	A	ADC	AD6 Input.			
99	AD7	I	A	ADC	AD7 Input.			
100	AD8	I	A	ADC	AD8 Input.			
101	AD9	I	A	ADC	AD9 Input.			
102	VREFH	I/O	A	ADC	Max Reference Voltage input for ADC. (Internal Reference Voltage mode, it will be an output state)			
103	VREFL	I/O	A	ADC	Min Reference Voltage input for ADC. (Internal Reference Voltage mode, it will be an output state)			
104	AVDD18	P		VDD & GND	Analog 1.8V Power.			
105	AVDD33	P		VDD & GND	Analog 3.3V Power.			
106	DA0 (TSCON)	O	A	DAC	DA0 output. (Track Servo output)			
107	DA1 (SLED)	O	A	DAC	DA1 output. (Sled Servo output)			
108	DA2 (FSCON)	O	A	DAC	DA2 output. (Forcus Servo output)			
109	DA3 (SLED2_ TILT)	O	A	DAC	DA3 output. (Sled Servo / Tilt Servo output)			
110	AVss	P		VDD & GND	Analog Ground			
111	FG	I	D	SPM	FG signal input.			*
112	SPWM1	O	D	SPM	Spindle motor PWM output 1.			
113	SPWM2	O	D	SPM	Spindle motor PWM output 2.			
114	GPWM0	O	D	General PWM	Multi-purpose PWM output 0.			
115	GPWM1	O	D	General PWM	Multi-purpose PWM output 1.			
116	GPWM2	O	D	General PWM	Multi-purpose PWM output 2.			
117	GPWM3	O	D	General PWM	Multi-purpose PWM output 3.			
118	GPWM4	O	D	General PWM	Multi-purpose PWM output 4.			
119	GPWM5	O	D	General PWM	Multi-purpose PWM output 5.			
120	XLCAS	O	D	DRAM I/F	DRAM LCAS output. (Low-Byte row address strobe output)			
121	XUCAS	O	D	DRAM I/F	DRAM UCAS output. (Upper-Byte row address strobe output)			
122	XMOE	O	D	DRAM I/F	DRAM output enable.			
123	RA11	O	D	DRAM I/F	DRAM address output terminal 11.			
124	RA10	O	D	DRAM I/F	DRAM address output terminal 10.			
125	DVss	P		VDD & GND	Digital Ground.			
126	RA9	O	D	DRAM I/F	DRAM address output terminal 9.			
127	RA8	O	D	DRAM I/F	DRAM address output terminal 8.			
128	RA7	O	D	DRAM I/F	DRAM address output terminal 7.			
129	RA6	O	D	DRAM I/F	DRAM address output terminal 6.			
130	RA5	O	D	DRAM I/F	DRAM address output terminal 5.			
131	DVDD33	P		VDD & GND	Digital 3.3V Power. (for I/O)			
132	RA4	O	D	DRAM I/F	DRAM address output terminal 4.			
133	RA3	O	D	DRAM I/F	DRAM address output terminal 3.			
134	RA2	O	D	DRAM I/F	DRAM address output terminal 2.			
135	RA1	O	D	DRAM I/F	DRAM address output terminal 1.			
136	DVDD18	P		VDD & GND	Digital 1.8V Power. (for Internal Logic power)			
137	RA0	O	D	DRAM I/F	DRAM address output terminal 0.			
138	XRAS	O	D	DRAM I/F	DRAM RAS output. (Column address strobe output)			
139	XMWR	O	D	DRAM I/F	DRAM Write enable.			
140	RD7	I/O	D	DRAM I/F	DRAM data input/output terminal 7.	*		
141	RD6	I/O	D	DRAM I/F	DRAM data input/output terminal 6.	*		
142	DVss	P		VDD & GND	Digital Ground.			
143	RD5	I/O	D	DRAM I/F	DRAM data input/output terminal 5.	*		
144	RD4	I/O	D	DRAM I/F	DRAM data input/output terminal 4.	*		
145	RD3	I/O	D	DRAM I/F	DRAM data input/output terminal 3.	*		
146	RD2	I/O	D	DRAM I/F	DRAM data input/output terminal 2.	*		
147	RD1	I/O	D	DRAM I/F	DRAM data input/output terminal 1.	*		
148	RD0	I/O	D	DRAM I/F	DRAM data input/output terminal 0.	*		
149	RD15	I/O	D	DRAM I/F	DRAM data input/output terminal 15.	*		

No.	Terminal Name	I/O	A/D	Classification	Function	PU	PD	SMT
150	RD14	I/O	D	DRAM I/F	DRAM data input/output terminal 14.	*		
151	RD13	I/O	D	DRAM I/F	DRAM data input/output terminal 13.	*		
152	RD12	I/O	D	DRAM I/F	DRAM data input/output terminal 12.	*		
153	RD11	I/O	D	DRAM I/F	DRAM data input/output terminal 11.	*		
154	RD10	I/O	D	DRAM I/F	DRAM data input/output terminal 10.	*		
155	RD9	I/O	D	DRAM I/F	DRAM data input/output terminal 9.	*		
156	DVDD18	P		VDD & GND	Digital 1.8V Power. (for internal Logic system)			
157	DVDD33	P		VDD & GND	Digital 3.3V power for I/O.			
158	RD8	I/O	D	DRAM I/F	DRAM data input/output terminal 8.	*		
159	TEST0	O	D	TEST/Monitor	TEST I/O 0.			
160	TEST1	O	D	TEST/Monitor	TEST I/O 1.			
161	TEST2	O	D	TEST/Monitor	TEST I/O 2.			
162	TEST3	O	D	TEST/Monitor	TEST I/O 3.			
163	TEST4	O	D	TEST/Monitor	TEST I/O 4.			
164	TEST5	O	D	TEST/Monitor	TEST I/O 5.			
165	TEST6	O	D	TEST/Monitor	TEST I/O 6.			
166	TEST7	O	D	TEST/Monitor	TEST I/O 7.			
167	TEST8	O	D	TEST/Monitor	TEST I/O 8.			
168	TEST9	O	D	TEST/Monitor	TEST I/O 9.			
169	TEST10	O	D	TEST/Monitor	TEST I/O 10.			
170	TEST11	O	D	TEST/Monitor	TEST I/O 11.			
171	TEST12	O	D	TEST/Monitor	TEST I/O 12.			
172	TEST13	O	D	TEST/Monitor	TEST I/O 13.			
173	TEST14	O	D	TEST/Monitor	TEST I/O 14.			
174	TEST15	O	D	TEST/Monitor	TEST I/O 15.			
175	MODSEL0	I	D	TEST/Monitor	TEST mode select 0. (GND, under normal conditions)			
176	MODSEL1	I	D	TEST/Monitor	TEST mode select 1. (GND, under normal conditions)			
177	DVss	P		VDD & GND	Digital Ground.			
178	MODSEL2	I	D	TEST/Monitor	TEST mode select 2. (GND, under normal conditions)			
179	GIO0	I/O	D	Multi-purpose	Multi-purpose port 0.		*	*
180	GIO1	I/O	D	Multi-purpose	Multi-purpose port 1.		*	*
181	GIO2	I/O	D	Multi-purpose	Multi-purpose port 2.		*	*
182	GIO3	I/O	D	Multi-purpose	Multi-purpose port 3.		*	*
183	DVDD33	P		VDD & GND	Digital 3.3V Power for I/O.			
184	GIO4	I/O	D	General Port	Multi-purpose port 4.		*	*
185	GIO5	I/O	D	General Port	Multi-purpose port 5.		*	*
186	GIO6	I/O	D	General Port	Multi-purpose port 6.		*	*
187	GIO7	I/O	D	General Port	Multi-purpose port 7.		*	*
188	DVDD18	P		VDD & GND	Digital 1.8V Power for I/O. (for internal Logic system)			
189	GIO8	I/O	D	General Port	Multi-purpose port 8.		*	*
190	GIO9	I/O	D	General Port	Multi-purpose port 9.	*	*	*
191	GIO10	I/O	D	General Port	Multi-purpose port 10.		*	*
192	GIO11	I/O	D	General Port	Multi-purpose port 11.		*	*
193	GIO12	I/O	D	General Port	Multi-purpose port 12.	*	*	*
194	DVss	P		VDD & GND	Digital Ground.			
195	GIO13	I/O	D	Multi-purpose	Multi-purpose port 13.	*	*	*
196	GIO14	I/O	D	General Port	Multi-purpose port 14.	*	*	*
197	GIO15	I/O	D	General Port	Multi-purpose port 15.	*	*	*
198	GIO16	I/O	D	General Port	Multi-purpose port 16.		*	*
199	GIO17	I/O	D	General Port	Multi-purpose port 17.		*	*
200	GIO18	I/O	D	General Port	Multi-purpose port 18.		*	*
201	GIO19	I/O	D	General Port	Multi-purpose port 19.		*	*
202	TRST	I	D	JTAG I/F	JTAG Reset input.		*	*
203	TMS	I	D	JTAG I/F	JTAG Mode Select input.	*		*
204	TDI	I	D	JTAG I/F	JTAG Data Input.	*		*
205	TCK	I	D	JTAG I/F	JTAG Clock input.	*		
206	TDO	O	D	JTAG I/F	JTAG Data output.			
207	VMCHG	I	D	MCU I/F	VSTEM / external MCU access selection terminal of system setting register for DSP. (L: VSTEM, H: external MCU)			
208	DVDD18	P		VDD & GND	Digital 1.8V power for internal Logic system.			

M65776BFP (MA:IC101)

Top View


208
157
1
156
1
TruSurround
#M65776BFP
XXXXX
JAPAN
52
105
53
104

Pin Assignment

No	Name	I/O	No	Name	I/O	No	Name	I/O	No	Name	I/O
1	GND	-	53	MA[3]	O	105	CLKO	O	157	PDR[8]	O
2	BCLK	I	54	MA[4]	O	106	CLKIN	I	158	PDR[9]	O
3	BDEN	I	55	MA[2]	O	107	AVDD18	-	159	LRCLK	O
4	BDREQ	O	56	VDD18	-	108	AGND18	-	160	CDLRCK	I
5	BSECH	I	57	VDD33	-	109	NCO	NC	161	CDBCK	I
6	HD[0]	I/O	58	MA[5]	O	110	NCO	NC	162	CDDATA	I
7	HD[1]	I/O	59	MA[1]	O	111	NCO	NC	163	CDDIN	I
8	HD[2]	I/O	60	MA[6]	O	112	GND	-	164	AO0	O
9	HD[3]	I/O	61	MA[0]	O	113	AVDD33	-	165	GND	-
10	HD[4]	I/O	62	MA[7]	O	114	DAOUTB	AO	166	AO1	O
11	HD[5]	I/O	63	MA[10]	O	115	AVRI	AI	167	AO2	O
12	VDD18	-	64	GND	-	116	PAB	AO	168	AOD	O
13	VDD33	-	65	MA[8]	O	117	IREF	AI	169	AAD	O
14	HD[6]	I/O	66	MBA[1]	O	118	BIAS2	AI	170	DOUT0	O
15	HD[7]	I/O	67	MA[9]	O	119	PAY	AO	171	DOUT1	O
16	HD[8]	I/O	68	MBA[0]	O	120	BIAS1	AI	172	ACLKI	I
17	HD[9]	I/O	69	MA[11]	O	121	AVDD33	-	173	DACCLK	O
18	HD[10]	I/O	70	DCS	O	122	PAR	AO	174	VDD18	-
19	HD[11]	I/O	71	VDD18	-	123	AVDD33	-	175	VDD33	-
20	GND	-	72	VDD33	-	124	AGND33	-	176	DOCLK	O
21	HD[12]	I/O	73	DCS2	O	125	GND	-	177	PWD	TO
22	HD[13]	I/O	74	DCS3	O	126	NC0	NC	178	CSYNC	I
23	HD[14]	I/O	75	DCS4	O	127	NCO	NC	179	OSDKEY	O
24	HD[15]	I/O	76	DCS5	O	128	NCO	NC	180	VSYNC	O
25	HA[0]	I	77	RAS	O	129	NCO	NC	181	HSYNC	O
26	HA[1]	I	78	CAS	O	130	NCO	NC	182	PXCLKP	O
27	VDD18	-	79	MCLK	O	131	NCO	NC	183	PXCLK	O
28	VDD33	-	80	DWE	O	132	NCO	NC	184	PD[0]	O
29	HA[2]	I	81	GND	-	133	NCO	NC	185	PD[1]	O
30	HA[3]	I	82	DQMU	O	134	VDD18	-	186	PD[2]	O
31	HA[4]	I	83	DQML	O	135	VDD33	-	187	GND	-
32	HA[5]	I	84	MD[7]	I/O	136	NCO	NC	188	PD[3]	O
33	HA[6]	I	85	MD[8]	I/O	137	NCO	NC	189	PD[4]	O
34	HA[7]	I	86	MD[6]	I/O	138	NCO	NC	190	PD[5]	O
35	GND	-	87	MD[9]	I/O	139	NCO	NC	191	PD[6]	O
36	HA[8]	I	88	VDD18	-	140	NCO	NC	192	PD[7]	O
37	HA[9]	I	89	VDD33	-	141	NCO	NC	193	RESET	I
38	HA[10]	I	90	MD[5]	I/O	142	NCO	NC	194	HMODE[0]	I
39	HA[11]	I	91	MD[10]	I/O	143	NCO	NC	195	HMODE[1]	I
40	CS	I	92	MD[4]	I/O	144	NCO	NC	196	TEST[0]	I
41	RE	I	93	MD[11]	I/O	145	GND	-	197	TEST[1]	I
42	VDD18	-	94	MD[3]	I/O	146	NCO	NC	198	VDD18	-
43	VDD33	-	95	MD[12]	I/O	147	NCO	NC	199	VDD33	-
44	WE	I	96	GND	-	148	NCO	NC	200	TEST[2]	I
45	BHE	I	97	MD[2]	I/O	149	NCO	NC	201	BD[0]	I
46	RDY	TO	98	MD[13]	I/O	150	NCO	NC	202	BD[1]	I
47	INT1	O	99	MD[1]	I/O	151	NCO	NC	203	BD[2]	I
48	INT2	O	100	MD[14]	I/O	152	NCO	NC	204	BD[3]	I
49	INT3	O	101	MD[0]	I/O	153	NCO	NC	205	BD[4]	I
50	GND	-	102	MD[15]	I/O	154	NCO	NC	206	BD[5]	I
51	DREQ	O	103	VDD18	-	155	VDD18	-	207	BD[6]	I
52	DACK	I	104	VDD33	-	156	VDD33	-	208	BD[7]	I

NC: NO Connection
TO: Tri-State Output
AO: Analog Output
AI: Analog Input

Functions (Bit stream input interface / SDRAM interface)

PIN Name	I/O	Functions
BD[7:0]	I	Bit Stream data input.
BCLK	I	Strobe Signal from BD.
BDEN	I	The validity of the data extracted from BD is checked.
BDREQ	O	Data Request signal.
BSECH	I	Directs whether the data of BD is the head byte of a selector.
MD[15:0]	I/O	Data bus line with SDRAM
MA[11:0]	O	SDRAM Address bus line
MBA[1:0]	O	SDRAM Bank select line.
DCS	O	SDRAM Chip select.
DCS2	O	SDRAM Chip select.
DCS3	O	SDRAM Chip select.
DCS4	O	SDRAM Chip select.
DCS5	O	SDRAM Chip select.
RAS	O	SDRAM RAS (Row Address Strobe) control.
CAS	O	SDRAM CAS (Column Address Strobe) control.
DQMU	O	SDRAM DQM control.
DQML	O	SDRAM DQM control.
DWE	O	SDRAM WE control.
MCLK	O	SDRAM operation clock.

Functions (Video output interface)

PIN Name	I/O	Functions
PXCLK	O	Pixel Clock, 27 MHz.
PXCLKP	O	Pixel Clock, 54 MHz.
PD[7:0]	O	Digital Pixel Data.
CSYNC	I	Composite SYNC signal input.
OSDKEY	O	OSD Key flag output.
PWD	O	Phase detecter output for external synchronous operation.
HSYNC	O	Horizontal SYNC output.
VSYNC	O	Vertical SYNC output.

Functions (Audio output interface)

PIN Name	I/O	Functions
A00	O	Serial PCM data for DAC.
A01	O	Serial PCM data for DAC.
A02	O	Serial PCM data for DAC.
A0D	O	Serial PCM data for DAC.
AAD	O	Ancillary data output.
DOCLK	O	PCM bit Clock.
LRCLK	O	Channel Clock output for PCM audio data.
DACCLK	O	Over-sampling Clock for DAC.
CDBCK	I	PCM Bit Clock inputted from CDDSP.
CDLRCK	I	L/R Clock inputted from CDDSP.
CDDIN	I	PCM audio data inputted from CDDSP.
CDATA	I	Digital audio interface input.
DOUT0	O	Digital audio interface output.
DOUT1	O	Digital audio interface output

Functions (Host interface)

Pin Name	I/O	Functions
HD[15:0]	I/O	Data I/O.
HA[11:0]	I	Address input.
BHE	I	Byte High Enable input.
RE	I	Read Enable input.
WE	I	Write Enable input.
CS	I	Chip Select input.
RDY	O	Acknowledge signal which shows that read-out or the writing of data was completed.
INTR INT2 INT3	O	Interruption request signal over external CPU from M65776AFP. "L" is outputted at the time of interruption generating and "H" is outputted when other.
DREQ	O	DMA request signal for bit map transmission.
DACK	I	DMA acknowledge signal for bit map transmission.
HMODE[1:0]	I	Host interface operation mode setting.
HMODE[2]	I	It fixed to "L" potential..

Video DAC

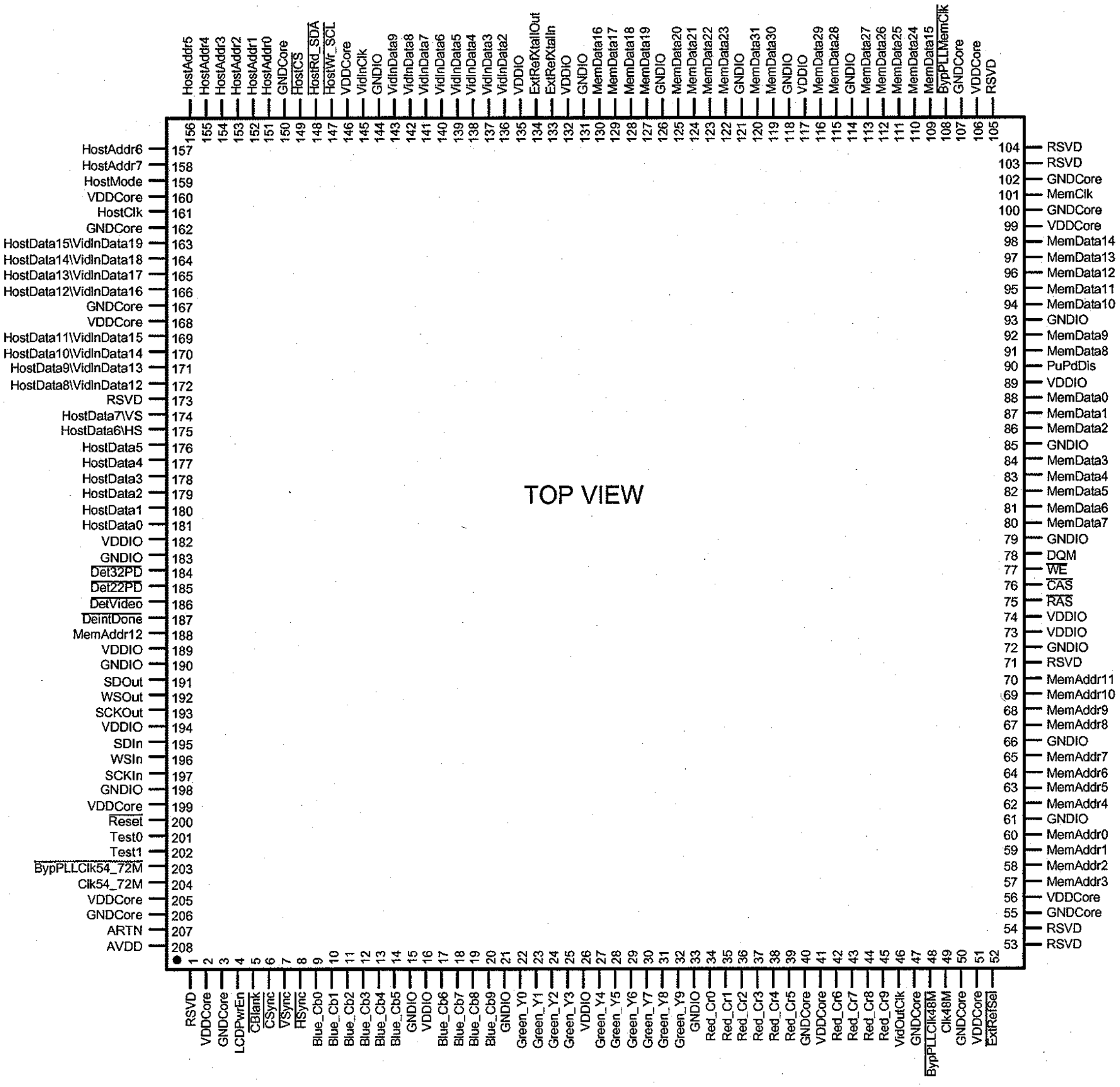
Pin Name	I/O	Functions
IREF	I	Reference current input.
AVRI	I	Reference voltage input.
BIAS1	I	Bias voltage for the source of current.
BIAS2	I	Bias voltage for the source of current.
PAY	O	Analog current output.(for Y)
PAB	O	Analog current output.(for Pb)
PAC	O	Analog current output.(for Pr)
DAOUTB	O	It fixed to Analog Ground..
AVDD33	Power	+3.3V Analog Power supply.
AGND33	Power	Analog Ground.

System service

Pin Name	I/O	Functions
CLKIN	I	27 MHz, system Clock input.
CLKO	O	27 MHz, Clock output.
ACLKI	I	Audio Clock input.
RESET	I	Hardware Reset.
TEST[2:0]	I	It fixed to "L" potential.
VDD18	Power	+1.8 V Power for internal.
VDD33	Power	+3.3 V Power for external interface.
GND	Power	Ground.
AVDD18	Power	+1.8 V Power for internal PLL.
AGND18	Power	It fixed to Ground. Ground for internal PLL.

SiI504CM208 (VI: IC701)

Top View


TOP VIEW
156 HostAddr5
155 HostAddr4
154 HostAddr3
153 HostAddr2
152 HostAddr1
151 HostAddr0
150 GNDCore
149 HostCS
148 HostRd_SDA
147 HostWr_SCL
146 VDDCore
145 VidInClk
144 GNDIO
143 VidInData9
142 VidInData8
141 VidInData7
140 VidInData6
139 VidInData5
138 VidInData4
137 VidInData3
136 VidInData2
135 VDDIO
134 ExtRefXtalOut
133 ExtRefXtalIn
132 VDDIO
131 GNDIO
130 MemData16
129 MemData17
128 MemData18
127 MemData19
126 GNDIO
125 MemData20
124 MemData21
123 MemData22
122 MemData23
121 GNDIO
120 MemData31
119 MemData30
118 GNDIO
117 VDDIO
116 MemData29
115 MemData28
114 GNDIO
113 MemData27
112 MemData26
111 MemData25
110 MemData24
109 MemData15
108 BypPLLMemClk
107 GNDCore
106 VDDCore
105 RSVD
157 HostAddr6
158 HostAddr7
159 HostMode
160 VDDCore
161 HostClk
162 GNDCore
163 HostData15\VidInData19
164 HostData14\VidInData18
165 HostData13\VidInData17
166 HostData12\VidInData16
167 GNDCore
168 VDDCore
169 HostData11\VidInData15
170 HostData10\VidInData14
171 HostData9\VidInData13
172 HostData8\VidInData12
173 RSVD
174 HostData7\VS
175 HostData6\HS
176 HostData5
177 HostData4
178 HostData3
179 HostData2
180 HostData1
181 HostData0
182 VDDIO
183 GNDIO
184 Det32PD
185 Det22PD
186 DetVideo
187 DeintDone
188 MemAddr12
189 VDDIO
190 GNDIO
191 SDOut
192 WSOut
193 SCKOut
194 VDDIO
195 SDIn
196 WSIn
197 SCKIn
198 GNDIO
199 VDDCore
200 Reset
201 Test0
202 Test1
203 BypPLLClk54_72M
204 Clk54_72M
205 VDDCore
206 GNDCore
207 ARTN
208 AVDD
104 RSVD
103 RSVD
102 GNDCore
101 MemClk
100 GNDCore
99 VDDCore
98 MemData14
97 MemData13
96 MemData12
95 MemData11
94 MemData10
93 GNDIO
92 MemData9
91 MemData8
90 PuPdDis
89 VDDIO
88 MemData0
87 MemData1
86 MemData2
85 GNDIO
84 MemData3
83 MemData4
82 MemData5
81 MemData6
80 MemData7
79 GNDIO
78 DQM
77 WE
76 CAS
75 RAS
74 VDDIO
73 VDDIO
72 GNDIO
71 RSVD
70 MemAddr11
69 MemAddr10
68 MemAddr9
67 MemAddr8
66 GNDIO
65 MemAddr7
64 MemAddr6
63 MemAddr5
62 MemAddr4
61 GNDIO
60 MemAddr0
59 MemAddr1
58 MemAddr2
57 MemAddr3
56 VDDCore
55 GNDCore
54 RSVD
53 RSVD
1 RSVD
2 VDDCore
3 GNDCore
4 LCDPwrEn
5 CBlank
6 CSync
7 VSync
8 HSync
9 Blue_Cb0
10 Blue_Cb1
11 Blue_Cb2
12 Blue_Cb3
13 Blue_Cb4
14 Blue_Cb5
15 GNDIO
16 VDDIO
17 Blue_Cb6
18 Blue_Cb7
19 Blue_Cb8
20 Blue_Cb9
21 GNDIO
22 Green_Y0
23 Green_Y1
24 Green_Y2
25 Green_Y3
26 VDDIO
27 Green_Y4
28 Green_Y5
29 Green_Y6
30 Green_Y7
31 Green_Y8
32 Green_Y9
33 GNDIO
34 Red_Cr0
35 Red_Cr1
36 Red_Cr2
37 Red_Cr3
38 Red_Cr4
39 Red_Cr5
40 GNDCore
41 VDDCore
42 Red_Cr6
43 Red_Cr7
44 Red_Cr8
45 Red_Cr9
46 VidOutClk
47 GNDCore
48 BypPLLClk48M
49 Clk48M
50 GNDCore
51 VDDCore
52 ExtRefSel

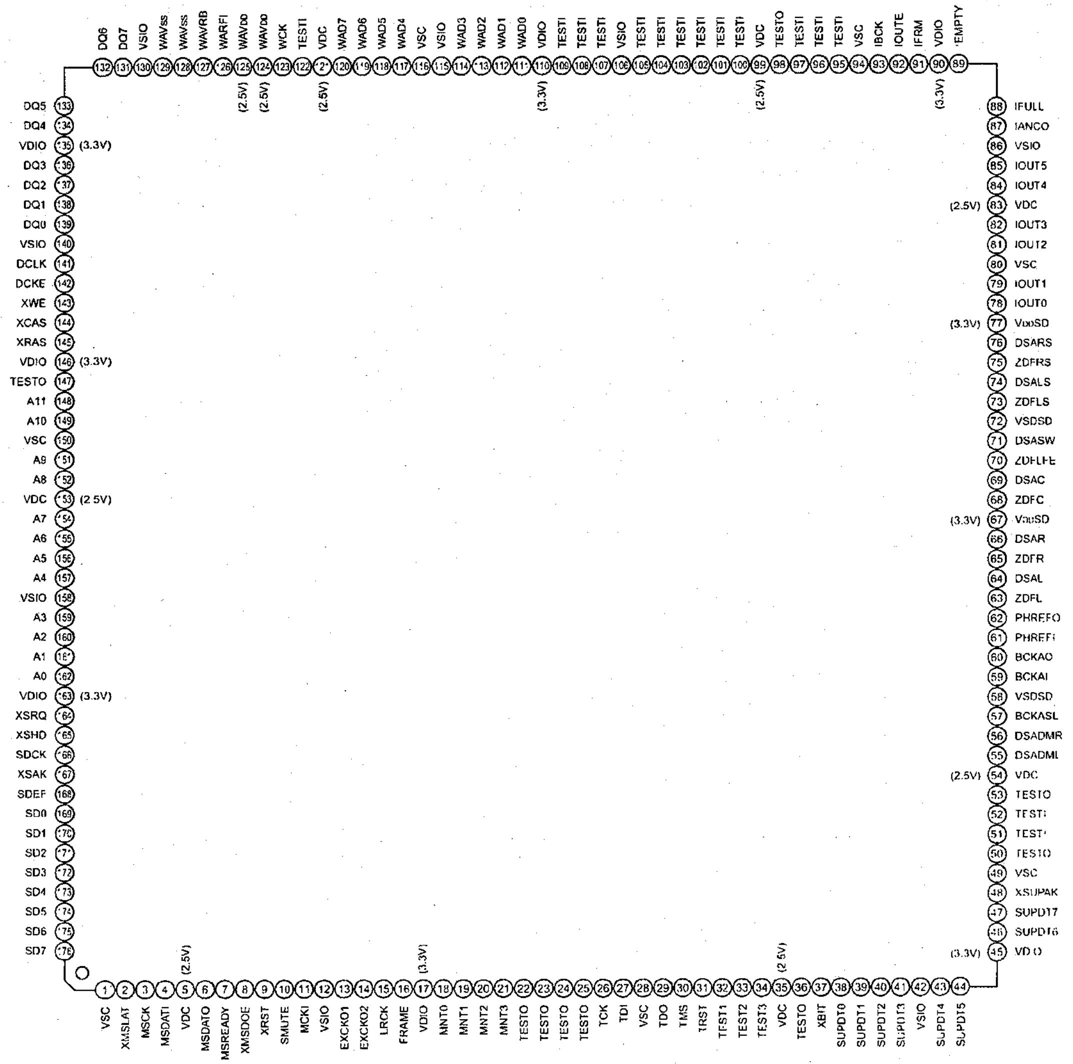
SiI504CM208 Terminal Function

Pin No.	Pin Name	I/O	Function
2, 41, 51, 56, 99, 106, 146, 160, 168, 199, 205	VDDCore	Pwr	1.8V Core Power.
3, 40, 47, 50, 55, 100, 102, 107, 150, 162, 167, 206	GNDCore	Pwr	Digital Ground for Core Power.
4	LCDPwrEn	Out	LCD Power Enable
5	CBlank	Out	Composite Blank
6	CSync	Out	Composite Sync
7	VSync	Out	Vertical Sync
8	HSync	Out	Horizontal Sync
9~14, 17~20	Blue_Cb[9:0]	Out	Blue Data (RGB output mode); Cb Data (YCrCb output mode)
15, 21, 33, 61, 66, 72, 79, 85, 93, 114, 118, 121, 126, 131, 144, 183, 190, 198	GNDIO	Pwr	Digital Ground for I/O Power.

Pin No.	Pin Name	I/O	Function
16, 26, 73, 74, 89, 117, 132, 135, 182, 189, 194	VDDIO	Pwr	3.3V I/O Power.
22~25, 27~32	Green_Y[9:0]	Out	Green Data (RGB output mode);Y Data (YCrCb output mode)
34~39, 42~45	Red_Cr[9:0]	Out	Red Data (RGB output mode); Cr Data (YCrCb output mode)
46	VidOutClk	Out	Video Output Clock, 36, 27 or 24 MHZ
48	$\overline{\text{BypPLLClk48M}}$	In	Bypass PLL for Clk48M.
49	Clk48M	InOut	48 MHz Clock.
52	$\overline{\text{ExtRefSel}}$	In	External APLL Reference Select.
57~60, 62~65, 67~70, 188	MemAddr[12:0]	InOut	SDRAM Address when an output. Configuration at reset when an input.
75	$\overline{\text{RAS}}$	Out	SDRAM Row Address Strobe.
76	$\overline{\text{CAS}}$	Out	SDRAM Column Address Strobe.
77	$\overline{\text{WE}}$	Out	SDRAM Write Enable.
78	DQM	Out	SDRAM Data Mask.
80~84, 86~88, 91, 92, 94~98, 109, 110~113, 115, 116, 119, 120, 122~125, 127~130	MemData[31:0]	InOut	SDRAM Data.
90	PuPdDis	In	Internal pullup and pulldown disable test function.
101	MemClk	InOut	SDRAM Clock.
108	$\overline{\text{BypPLLMemClk}}$	In	Bypass PLL for MemClk.
133	ExtRefXtalIn	In	External APLL Reference Crystal/oscillator Input.
134	ExtRefXtalOut	Out	External APLL Reference Crystal Output.
136~143	VidInData[9:2]	In	Multiplexed Video Input Data; Y Video Input Data.
145	VidInClk	In	Video Input Clock, 27.0 MHz
147	$\overline{\text{HostWr\_SCL}}$	In	186-Compatible Write when HostMode=0. Serial Clock when HostMode=1.
148	$\overline{\text{HostRd\_SDA}}$	InOut	186-Compatible Read when HostMode=0. Serial Data when HostMode=1.
149	$\overline{\text{HostCS}}$	In	186-Compatible Chip Select when HostMode=0. When HostMode=1, must be tied to VDD or pulled up to VDD.
151~158	HostAddr[7:0]	In	186-Compatible Address when HostMode=0. No connect when HostMode=1.
159	HostMode	In	Serial Host Interface when HostMode=1. 186-compatible host interface when HostMode=0.
161	HostClk	InOut	186-Compatible Clock when HostMode=0. No connect when HostMode=1.
163~166, 169~172	HostData[15:8] (VidInData[19:2])	InOut	186-Compatible Data when HostMode=0. Chroma video input data when HostMode=1.
174	HostData[7](VS)	InOut	186-Compatible Data when HostMode=0. Vertical sync input when HostMode=1.
175	HostData[6](HS)	InOut	186-Compatible Data when HostMode=0. Horizontal sync input when HostMode=1.
176~181	HostData[5:0]	InOut	186-Compatible Data when HostMode=0. No connect when HostMode=1.
184	$\overline{\text{Det32PD}}$	Out	3:2 Pulldown Sequence Detected.
185	$\overline{\text{Det22PD}}$	Out	2:2 Pulldown Sequence Detected.
186	$\overline{\text{DetVideo}}$	Out	Interlaced Video Sequence Detected.
187	$\overline{\text{DeintDone}}$	Out	Deinterlace processing complete for current field period.
191	SDOut	Out	Serial Digital Audio Output Data.
192	WSOut	Out	Serial Digital Audio Output Word Select.
193	SCKOut	Out	Serial Digital Audio Output Clock.
195	SDIn	In	Serial Digital Audio Input Data.
196	WSIn	In	Serial Digital Audio Input Word Select.
197	SCKIn	In	Serial Digital Audio Input Clock.
200	$\overline{\text{Reset}}$	In	Hardware Reset.
201, 202	Test[1:0]	In	Production hardware test support.
203	$\overline{\text{BypPLLClk54\_72M}}$	In	Bypass PLL for Clk54_72M.
204	Clk54_72M	InOut	54 or 72 MHz Clock.
207	ARTN	Pwr	Analog Return for PLLs.
208	AVDD	Pwr	1.8V Analog Power for PLL.

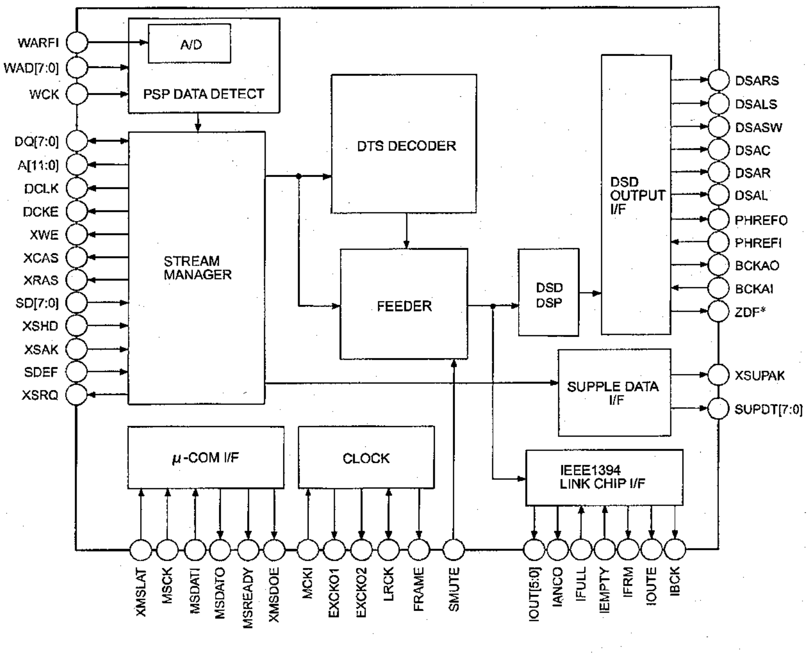
CXD-2753R (MA: IC401)

Pin Assignment



DQ6 132
DQ7 131
VSIO 130
WAVss 129
WAVss 128
WAVRB 127
WARFI 126
WAVDD 125 (2.5V)
WAVDD 124 (2.5V)
WCK 123
TESTI 122
VDC 121 (2.5V)
WAD7 120
WAD6 119
WAD5 118
WAD4 117
VSC 116
VSIO 115
WAD3 114
WAD2 113
WAD1 112
WAD0 111
VDIO 110 (3.3V)
TESTI 109
TESTI 108
TESTI 107
VSIO 106
TESTI 105
TESTI 104
TESTI 103
TESTI 102
TESTI 101
TESTI 100
VDC 99 (2.5V)
TESTO 98
TESTI 97
TESTI 96
TESTI 95
VSC 94
IBCK 93
IOUTE 92
IFRM 91
VDIO 90 (3.3V)
EMPTY 89
DQ5 133
DQ4 134
VDIO 135 (3.3V)
DQ3 136
DQ2 137
DQ1 138
DQ0 139
VSIO 140
DCLK 141
DCKE 142
XWE 143
XCAS 144
XRAS 145
VDIO 146 (3.3V)
TESTO 147
A11 148
A10 149
VSC 150
A9 151
A8 152
VDC 153 (2.5V)
A7 154
A6 155
A5 156
A4 157
VSIO 158
A3 159
A2 160
A1 161
A0 162
VDIO 163 (3.3V)
XSRQ 164
XSHD 165
SDCK 166
XSAK 167
SDEF 168
SD0 169
SD1 170
SD2 171
SD3 172
SD4 173
SD5 174
SD6 175
SD7 176
88 IFULL
87 IANCO
86 VSIO
85 IOUT5
84 IOUT4
(2.5V) 83 VDC
82 IOUT3
81 IOUT2
80 VSC
79 IOUT1
78 IOUT0
(3.3V) 77 VDDSD
76 DSARS
75 ZDFRS
74 DSALS
73 ZDFLS
72 VSDSD
71 DSASW
70 ZDFLFE
69 DSAC
68 ZDFC
(3.3V) 67 VDDSD
66 DSAR
65 ZDFR
64 DSAL
63 ZDFL
62 PHREFO
61 PHREFI
60 BCKAO
59 BCKAI
58 VSDSD
57 BCKASL
56 DSADMR
55 DSADML
(2.5V) 54 VDC
53 TESTO
52 TESTI
51 TESTI
50 TESTO
49 VSC
48 XSUPAK
47 SUPDT7
46 SUPDT6
(3.3V) 45 VDIO
1 VSC
2 XMSLAT
3 MSCK
4 MSDATI
5 VDC (2.5V)
6 MSDATO
7 MSREADY
8 XMSDOE
9 XRST
10 SMUTE
11 MCKI
12 VSIO
13 EXCKO1
14 EXCKO2
15 LRCK
16 FRAME
17 VDIO (3.3V)
18 MNT0
19 MNT1
20 MNT2
21 MNT3
22 TESTO
23 TESTO
24 TESTO
25 TESTO
26 TCK
27 TDI
28 VSC
29 TDO
30 TMS
31 TRST
32 TEST1
33 TEST2
34 TEST3
35 VDC (2.5V)
36 TESTO
37 XBIT
38 SUPDT0
39 SUPDT1
40 SUPDT2
41 SUPDT3
42 VSIO
43 SUPDT4
44 SUPDT5

Block Diagram



WARFI
WAD[7:0]
WCK
A/D
PSP DATA DETECT
DQ[7:0]
A[11:0]
DCLK
DCKE
XWE
XCAS
XRAS
SD[7:0]
XSHD
XSAK
SDEF
XSRQ
STREAM MANAGER
DTS DECODER
FEEDER
DSD DSP
DSD OUTPUT I/F
SUPPLE DATA I/F
IEEE1394 LINK CHIP I/F
μ-COM I/F
CLOCK
DSARS
DSALS
DSASW
DSAC
DSAR
DSAL
PHREFO
PHREFI
BCKAO
BCKAI
ZDF*
XSUPAK
SUPDT[7:0]
XMSLAT
MSCK
MSDATI
MSDATO
MSREADY
XMSDOE
MCKI
EXCKO1
EXCKO2
LRCK
FRAME
SMUTE
IOUT[5:0]
IANCO
IFULL
IEMPTY
IFRM
IOUTE
IBCK

Terminal Functions

	Pin Name	I/O	Functions
1	VSC	-	It fixed to ground.(for Core)
2	XMSLAT	I	Latch input for µCOM serial communication.
3	MSCK	I	Shift clock input for µCOM serial communication.
4	MSDATI	I	Data input for µCOM serial communication.
5	VDC	-	+2.5V Power for Core.
6	MSDATO	O	Data output for µCOM serial communication. "Hi-Z" potential except the output mode.
7	MSREADY	O	Completion flag of output preparation for µCOM serial communication. "L" is outputted at the time of completion.
8	XMSDOE	O	Output enable pin for µCOM serial communication. "L" is outputted at the time of MSDATO mode.
9	XRST	I	Reset pin. The whole IC is reset by at the time of "L" potential.
10	SMUTE	Ipd	Soft Mute. Soft mute of the audio output is carried out at the time of "H" potential. It releases at the time of "L" potential.
11	MCKI	I	Master Clock input.
12	VSIO	-	It fixed to Ground. Ground for I/O.
13	EXCKO1	O	External output Clock 1.
14	EXCKO2	O	External output Clock 2.
15	LRCK	O	44.1kHz, 1Fs Clock output.
16	FRAME	O	Frame signal output.
17	VDIO	-	+3.3V Power for I/O.
18	MNT0	O	Monitor output.
19	MNT1	O	Monitor output.
20	MNT2	O	Monitor output.
21	MNT3	O	Monitor output.
22	TESTO	O	Output terminal for a Test. (open)
23	TESTO	O	Output terminal for a Test.(open)
24	TESTO	O	Output terminal for a Test.(open)
25	TESTO	O	Output terminal for a Test.(open)
26	TCK	I	Clock input for a Test. It fixed to "L" potential.
27	TDI	Ipu	Input pin(pull-up) for a Test.(open)
28	VSC	-	It fixed to Ground. Ground for CORE.
29	TDO	O	Output for a Test.(open).
30	TMS	Ipu	Input pin(pull-up) for a Test.(open)
31	TRST	Ipu	Reset pin(pull-up) for a Test. Input the Power-on reset signal or fixed to "L" potential.
32	TEST1	I	Test input pin. It fixed to "L" potential.
33	TEST2	I	Test input pin. It fixed to "L" potential.
34	TEST3	I	Test input pin. It fixed to "L" potential.
35	VDC	-	+2.5V Power for CORE.
36	TESTO	O	Out put for TEST. It fixed to open.
37	XBIT	O	DST monitor.
38	SUPDT0	O	Supplementary data output. (LSB)
39	SUPDT1	O	Supplementary data output.
40	SUPDT2	O	Supplementary data output.
41	SUPDT3	O	Supplementary data output.
42	VSIO	-	Ground for I/O.
43	SUPDT4	O	Supplementary data output.
44	SUPDT5	O	Supplementary data output.
45	VDIO	-	+3.3V Power for I/O.
46	SUPDT6	O	Supplementary data output.
47	SUPDT7	O	Supplementary data output. (MSB)
48	XSUPAK	O	Supplementary data Acknowledge output terminal.
49	VSC	-	Ground for CORE.

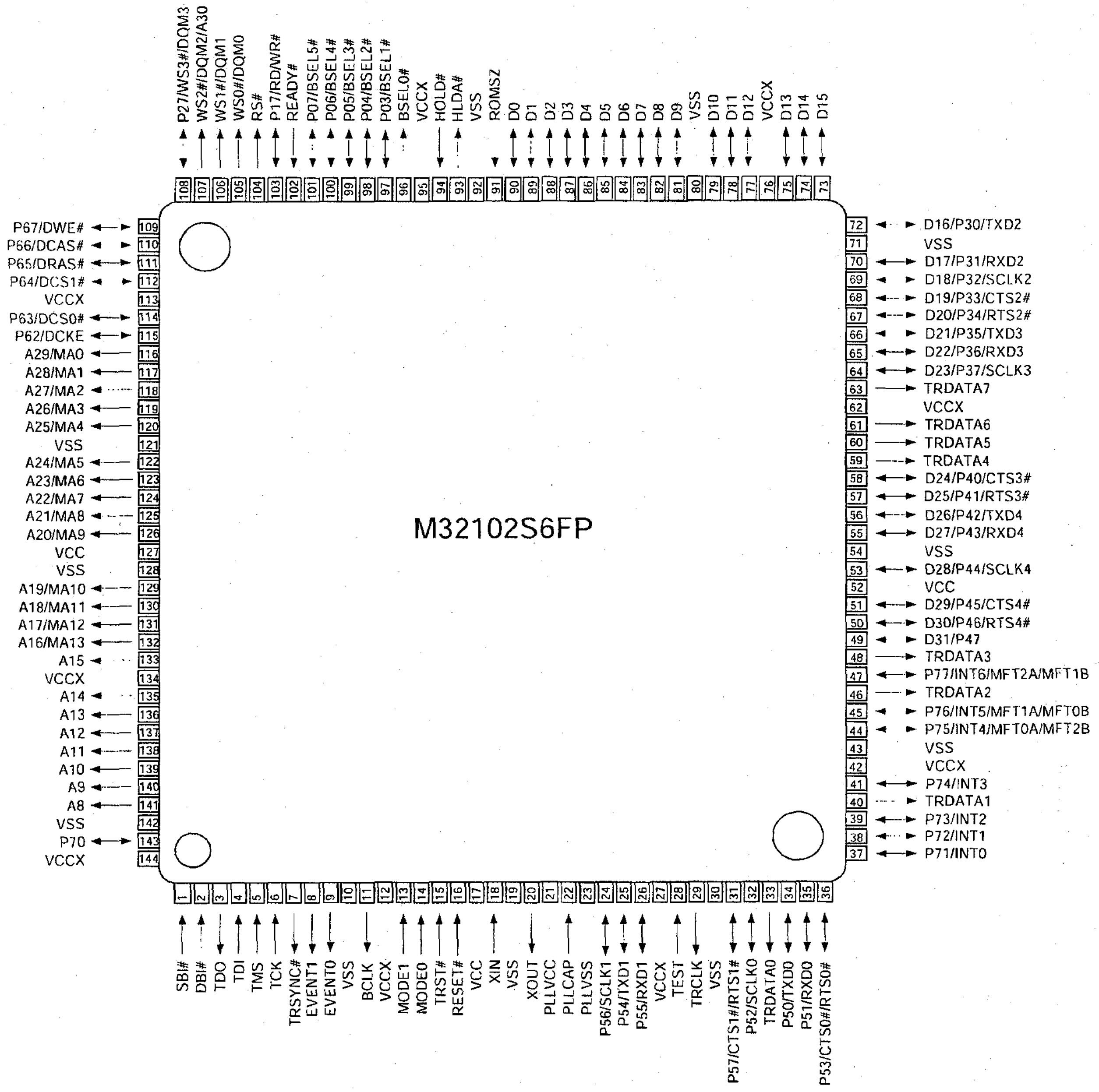
	Pin Name	I/O	Functions
50	TESTO	O	Output for TEST. (open)
51	TESTI	I	Input for TEST. It fixed to "L" potential.
52	TESTI	I	Input for TEST. It fixed to "L" potential.
53	TESTO	O	Output for TEST. (open)
54	VDC	-	+2.5V Power for CORE.
55	DSADML	O	DSD Data output terminal for Lch Down Mix.
56	DSADMR	O	DSD Data output terminal for Rch Down Mix.
57	BCKASL	I	I/O selection terminal of the Bit clock for DSD data output. L=input (Slave), H=output (Master)
58	VSDSD	-	Ground terminal for DSD data output.
59	BCKAI	I	Bit clock input terminal for DSD data output. Input a Bit clock into this terminal at the time of BCKASL="L" potential.
60	BCKAO	O	Bit clock output terminal for DSD data output. Bit clock output from this terminal at the time of BCKASL="H" potential.
61	PHREFI	I	Reference phase signal input terminal for DSD output phase modulation.
62	PHREFO	O	Reference phase signal output terminal for DSD output phase modulation.
63	ZDFL	O	Lch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
64	DSAL	O	DSD data output terminal for Lch speaker.
65	ZDFR	O	Rch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
66	DSAR	O	DSD data output terminal for Rch speaker.
67	VDDSD	-	+3.3V Power for DSD data output.
68	ZDFC	O	Cch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
69	DSAC	O	DSD data output terminal for Cch speaker.
70	ZDFLFE	O	LFEch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
71	DSASW	O	DSD data output terminal for SWch speaker.
72	VSDSD	-	Ground for DSD data output.
73	ZDFLS	O	LSch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
74	DSALS	O	DSD data output terminal for LSch speaker.
75	ZDFRS	O	RSch zero-data detection flag (at the time of µcom setup). It will be set to "H" if non-sound data continues 300 msecs.
76	DSARS	O	DSD data output terminal for RSch speaker.
77	VDDSD	O	+3.3V Power for DSD data output.
78	IOUT0	O	Data output terminal 0 for IEEE1394 link chip I/F.
79	IOUT1	O	Data output terminal 1 for IEEE1394 link chip I/F.
80	VSC	-	Ground for CORE.
81	IOUT2	O	Data output terminal 2 for IEEE1394 link chip I/F.
82	IOUT3	O	Data output terminal 3 for IEEE1394 link chip I/F.
83	VDC	-	+2.5V Power for CORE.
84	IOUT4	O	Data output terminal 4 for IEEE1394 link chip I/F.
85	IOUT5	O	Data output terminal 5 for IEEE1394 link chip I/F.
86	VSIO	-	Ground for I/O.
87	IANCO	O	Transmission information data output terminal for IEEE1394 link chip I/F.
88	IFULL	I	Data transmission hold request signal input terminal for IEEE1394 link chip I/F.
89	IEMPTY	I	High speed transmission request signal input terminal for IEEE1394 link chip I/F.
90	VDIO	-	+3.3V Power for I/O.
91	IFRM	O	Frame reference signal output terminal for IEEE1394 link chip I/F.
92	IOUTE	O	Enable signal output terminal for IEEE1394 link chip I/F.
93	IBCK	O	Data transmission clock output terminal for IEEE1394 link chip I/F.
94	VSC	-	Ground for CORE.
95	TESTI	I	TEST input terminal. It fixed to "H" potential.

	Pin Name	I/O	Functions
96	TESTI	I	TEST input terminal. It fixed to "L" potential.
97	TESTI	Ipu	TEST input terminal. It fixed to "H" potential.
98	TESTO	O	TEST output terminal. (open)
99	VDC	-	+2.5V Power for CORE.
100	TESTI	I	TEST input terminal. It fixed to "L" potential.
101	TESTI	I	TEST input terminal. It fixed to "L" potential.
102	TESTI	I	TEST input terminal. It fixed to "L" potential.
103	TESTI	I	TEST input terminal. It fixed to "L" potential.
104	TESTI	I	TEST input terminal. It fixed to "L" potential.
105	TESTI	I	TEST input terminal. It fixed to "L" potential.
106	VSIO	-	Ground for I/O.
107	TESTI	I	TEST input terminal. It fixed to "L" potential.
108	TESTI	I	TEST input terminal. It fixed to "L" potential.
109	TESTI	I	TEST input terminal. It fixed to "L" potential.
110	VDIO	-	+3.3V Power for I/O.
111	WAD0	I	External A/D data input terminal(LSB) for PSP physical disc mark detection.
112	WAD1	I	External A/D data input terminal for PSP physical disc mark detection.
113	WAD2	I	External A/D data input terminal for PSP physical disc mark detection.
114	WAD3	I	External A/D data input terminal for PSP physical disc mark detection.
115	VSIO	-	Ground for I/O.
116	VSC	-	Ground for CORE.
117	WAD4	I	External A/D data input terminal for PSP physical disc mark detection.
118	WAD5	I	External A/D data input terminal for PSP physical disc mark detection.
119	WAD6	I	External A/D data input terminal for PSP physical disc mark detection.
120	WAD7	I	External A/D data input terminal(MSB) for PSP physical disc mark detection.
121	VDC	-	+2.5V Powe for CORE.
122	TESTI	I	TEST input terminal. It fixed to "L" potential.
123	WCK	I	Operation clock for PSP physical disc mark detection.
124	WAVDD	-	+2.5V Power. A/D Power supply for PSP physical disc mark detection.
125	WAVDD	-	+2.5V Power. A/D Power supply for PSP physical disc mark detection.
126	WARFI	Ai	Analog RF signal input terminal for PSP physical disc mark detection.
127	WAVRB	Ai	A/D bottom reference terminal for PSP physical disc mark detection.
128	WAVss	-	A/D Ground terminal for PSP physical disc mark detection.
129	WAVss	-	A/D Ground terminal for PSP physical disc mark detection.
130	VSIO	-	Ground for I/O.
131	DQ7	I/O	SDRAM data input/output terminal. (MSB)
132	DQ6	I/O	SDRAM data input/output terminal.
133	DQ5	I/O	SDRAM data input/output terminal.
134	DQ4	I/O	SDRAM data input/output terminal.
135	VDIO	-	+3.3V Power for I/O.
136	DQ3	I/O	SDRAM data input/output terminal.
137	DQ2	I/O	SDRAM data input/output terminal.
138	DQ1	I/O	SDRAM data input/output terminal.
139	DQ0	I/O	SDRAM data input/output terminal. (LSB)
140	VSIO	-	Ground for I/O.
141	DCLK	O	Clock output terminal for SDRAM.
142	DCKE	O	Clock enable output terminal for SDRAM.
143	XWE	O	Write enable output terminal for SDRAM.
144	XCAS	O	Colomn address strobe output terminal for SDRAM.
145	XRAS	O	Row address strobe output terminal for SDRAM.
146	VDIO	-	+3.3V Power for I/O.
147	TESTO	O	Output terminal for TEST. (open)

	Pin Name	I/O	Functions
148	A11	O	Address output terminal for SDRAM. (MSB)
149	A10	O	Address output terminal for SDRAM.
150	VSC	-	Ground for CORE.
151	A9	O	Address output terminal for SDRAM.
152	A8	O	Address output terminal for SDRAM.
153	VDC	-	+2.5V Power for CORE.
154	A7	O	Address output terminal for SDRAM.
155	A6	O	Address output terminal for SDRAM.
156	A5	O	Address output terminal for SDRAM.
157	A4	O	Address output terminal for SDRAM.
158	VSIO	-	Ground for I/O.
159	A3	O	Address output terminal for SDRAM.
160	A2	O	Address output terminal for SDRAM.
161	A1	O	Address output terminal for SDRAM.
162	A0	O	Address output terminal for SDRAM. (LSB)
163	VDIO	-	+3.3V Power for I/O.
164	XSRQ	O	Output terminal of the Data Request signal inputted a front-end processor.
165	XSHD	I	Input terminal of the header Flag outputted from a front-end processor.
166	SDCK	I	Input terminal of the data conveyance Clock outputted from a front-end processor.
167	XASK	I	Input terminal of the data valid Flag outputted from a front-end processor.
168	SDEF	I	Input terminal of the error Flag outputted from a front-end processor.
169	SD0	I	Input terminal of the stream Data outputted from a front-end processor.
170	SD1	I	Input terminal of the stream Data outputted from a front-end processor.
171	SD2	I	Input terminal of the stream Data outputted from a front-end processor.
172	SD3	I	Input terminal of the stream Data outputted from a front-end processor.
173	SD4	I	Input terminal of the stream Data outputted from a front-end processor.
174	SD5	I	Input terminal of the stream Data outputted from a front-end processor.
175	SD6	I	Input terminal of the stream Data outputted from a front-end processor.
176	SD7	I	Input terminal of the stream Data outputted from a front-end processor.

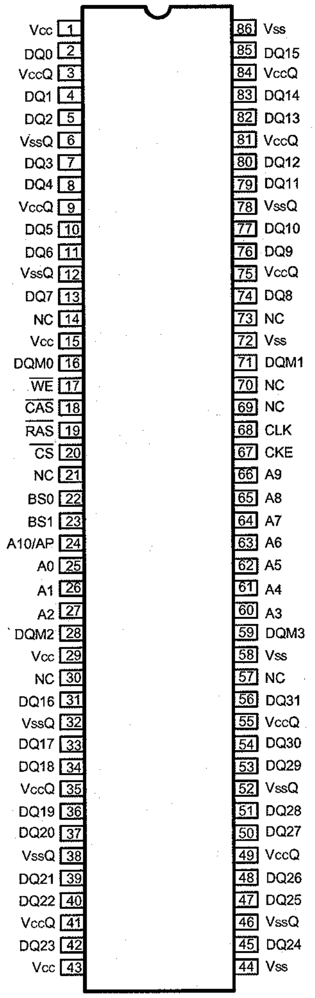
Ipu: Pull-up input　Ipd: Pull-down input　Ai: Analog input

M32102S6FP (MA: IC102)


M32102S6FP
108 P27/WS3#/DQM3
107 WS2#/DQM2/A30
106 WS1#/DQM1
105 WS0#/DQM0
104 RS#
103 P17/RD/WR#
102 READY#
101 P07/BSEL5#
100 P06/BSEL4#
99 P05/BSEL3#
98 P04/BSEL2#
97 P03/BSEL1#
96 BSEL0#
95 VCCX
94 HOLD#
93 HLDA#
92 VSS
91 ROMSZ
90 D0
89 D1
88 D2
87 D3
86 D4
85 D5
84 D6
83 D7
82 D8
81 D9
80 VSS
79 D10
78 D11
77 D12
76 VCCX
75 D13
74 D14
73 D15
P67/DWE# 109
P66/DCAS# 110
P65/DRAS# 111
P64/DCS1# 112
VCCX 113
P63/DCS0# 114
P62/DCKE 115
A29/MA0 116
A28/MA1 117
A27/MA2 118
A26/MA3 119
A25/MA4 120
VSS 121
A24/MA5 122
A23/MA6 123
A22/MA7 124
A21/MA8 125
A20/MA9 126
VCC 127
VSS 128
A19/MA10 129
A18/MA11 130
A17/MA12 131
A16/MA13 132
A15 133
VCCX 134
A14 135
A13 136
A12 137
A11 138
A10 139
A9 140
A8 141
VSS 142
P70 143
VCCX 144
72 D16/P30/TXD2
71 VSS
70 D17/P31/RXD2
69 D18/P32/SCLK2
68 D19/P33/CTS2#
67 D20/P34/RTS2#
66 D21/P35/TXD3
65 D22/P36/RXD3
64 D23/P37/SCLK3
63 TRDATA7
62 VCCX
61 TRDATA6
60 TRDATA5
59 TRDATA4
58 D24/P40/CTS3#
57 D25/P41/RTS3#
56 D26/P42/TXD4
55 D27/P43/RXD4
54 VSS
53 D28/P44/SCLK4
52 VCC
51 D29/P45/CTS4#
50 D30/P46/RTS4#
49 D31/P47
48 TRDATA3
47 P77/INT6/MFT2A/MFT1B
46 TRDATA2
45 P76/INT5/MFT1A/MFT0B
44 P75/INT4/MFT0A/MFT2B
43 VSS
42 VCCX
41 P74/INT3
40 TRDATA1
39 P73/INT2
38 P72/INT1
37 P71/INT0
1 SBI#
2 DBI#
3 TDO
4 TDI
5 TMS
6 TCK
7 TRSYNC#
8 EVENT1
9 EVENT0
10 VSS
11 BCLK
12 VCCX
13 MODE1
14 MODE0
15 TRST#
16 RESET#
17 VCC
18 XIN
19 VSS
20 XOUT
21 PLLVCC
22 PLLCAP
23 PLLVSS
24 P56/SCLK1
25 P54/TXD1
26 P55/RXD1
27 VCCX
28 TEST
29 TRCLK
30 VSS
31 P57/CTS1#/RTS1#
32 P52/SCLK0
33 TRDATA0
34 P50/TXD0
35 P51/RXD0
36 P53/CTS0#/RTS0#

64M SDRAM (VI: IC702)

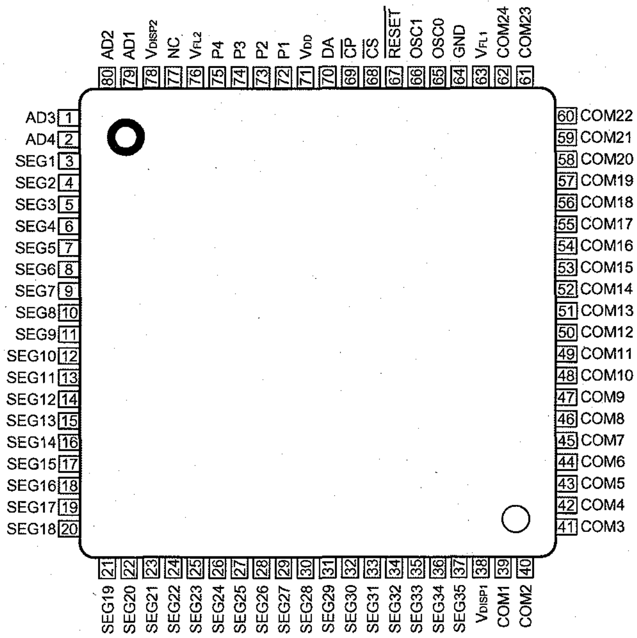
W986432AH


Vcc 1
DQ0 2
VccQ 3
DQ1 4
DQ2 5
VssQ 6
DQ3 7
DQ4 8
VccQ 9
DQ5 10
DQ6 11
VssQ 12
DQ7 13
NC 14
Vcc 15
DQM0 16
$\overline{WE}$ 17
$\overline{CAS}$ 18
$\overline{RAS}$ 19
$\overline{CS}$ 20
NC 21
BS0 22
BS1 23
A10/AP 24
A0 25
A1 26
A2 27
DQM2 28
Vcc 29
NC 30
DQ16 31
VssQ 32
DQ17 33
DQ18 34
VccQ 35
DQ19 36
DQ20 37
VssQ 38
DQ21 39
DQ22 40
VccQ 41
DQ23 42
Vcc 43
86 Vss
85 DQ15
84 VccQ
83 DQ14
82 DQ13
81 VccQ
80 DQ12
79 DQ11
78 VssQ
77 DQ10
76 DQ9
75 VccQ
74 DQ8
73 NC
72 Vss
71 DQM1
70 NC
69 NC
68 CLK
67 CKE
66 A9
65 A8
64 A7
63 A6
62 A5
61 A4
60 A3
59 DQM3
58 Vss
57 NC
56 DQ31
55 VccQ
54 DQ30
53 DQ29
52 VssQ
51 DQ28
50 DQ27
49 VccQ
48 DQ26
47 DQ25
46 VssQ
45 DQ24
44 Vss

W986432AH Terminal Function

Pin No.	Pin Name	Function
25~27, 60~66, 24	A0-A10	Address for row and column
22, 23	BS0, BS1	Bank Select to activate during row address latch time
2, 4, 5, 7, 8, 10, 11 ,13, 31, 33, 34, 36, 37, 39, 40, 42, 45, 47, 48, 50, 51, 53, 54, 56, 74, 76, 77, 79, 80, 82, 83, 85	DQ0-DQ31	Data Input / Output pins for data
20	$\overline{CS}$	Chip Selec to disable or enable the command decoder
19	$\overline{RAS}$	Row Address Strobe
18	$\overline{CAS}$	Column Address Strobe
17	$\overline{WE}$	Write Enable
16, 28, 59, 71	DQM0-DQM3	Input / Out put Mask
68	CLK	Clock Inputs
67	CKE	Clock Enable
1, 15, 29, 43	Vcc	Power (+3.3V)
44, 58, 72, 86	Vss	Ground
3, 9, 35, 41, 49, 55, 75, 81	VccQ	Power (+3.3V) for I/O Buffer
6, 12, 32, 38, 46, 52, 78, 84	VssQ	Ground for I/O Buffer
14, 21, 30, 57, 69, 70, 73	NC	No Connection

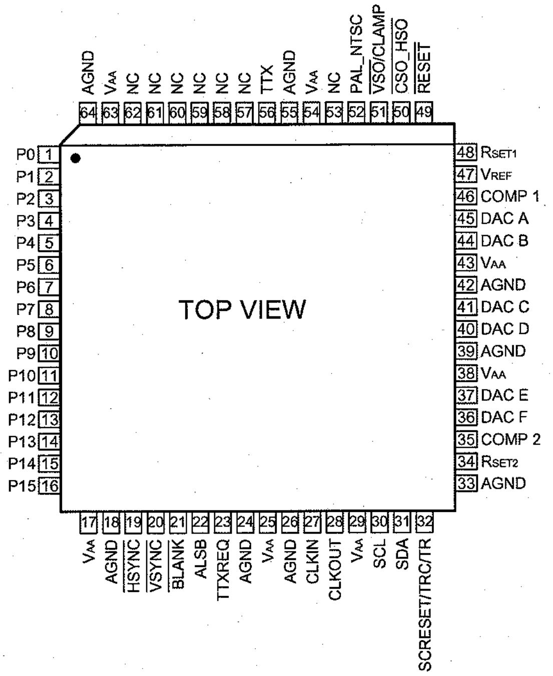
ML9207-01 (PD: IC101)


AD2 80
AD1 79
VDISP2 78
NC 77
VFL2 76
P4 75
P3 74
P2 73
P1 72
VDD 71
DA 70
CP 69
CS 68
RESET 67
OSC1 66
OSC0 65
GND 64
VFL1 63
COM24 62
COM23 61
AD3 1
AD4 2
SEG1 3
SEG2 4
SEG3 5
SEG4 6
SEG5 7
SEG6 8
SEG7 9
SEG8 10
SEG9 11
SEG10 12
SEG11 13
SEG12 14
SEG13 15
SEG14 16
SEG15 17
SEG16 18
SEG17 19
SEG18 20
60 COM22
59 COM21
58 COM20
57 COM19
56 COM18
55 COM17
54 COM16
53 COM15
52 COM14
51 COM13
50 COM12
49 COM11
48 COM10
47 COM9
46 COM8
45 COM7
44 COM6
43 COM5
42 COM4
41 COM3
21 SEG19
22 SEG20
23 SEG21
24 SEG22
25 SEG23
26 SEG24
27 SEG25
28 SEG26
29 SEG27
30 SEG28
31 SEG29
32 SEG30
33 SEG31
34 SEG32
35 SEG33
36 SEG34
37 SEG35
38 VDISP1
39 COM1
40 COM2

ML9207-01 Terminal Function

Pin No.	Pin Name	I/O	Function
3~37	SEG1~35	O	FL display anode drive output pin
39~62	COM1~24	O	FL display grid drive output pin
1,2, 79, 80	AD1~4	O	FL display anode drive output pin
72~75	P1~4	O	General port output pin
71	VDD		VDD-GND: Power supply for logic block VDISP-VFL: Power supply for FL display drive For VDD and VDISP, apply from same power source
38, 78	VDISP1~2		
64	GND		
63, 76	VFL1~2		
70	DA	I	Serial data input pin (positive logic)
69	$\overline{\text{CP}}$	I	Shift clock input pin
68	$\overline{\text{CS}}$	I	Chip select input pin
67	$\overline{\text{RESET}}$	I	Reset input pin
65	OSC0	I	Pin for self-oscillation
66	OSC1	O	

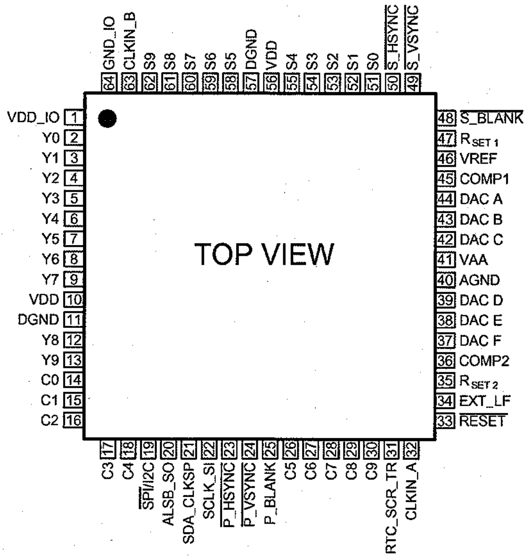
ADV7190 (VI: IC705) For Europe model


64 AGND
63 VAA
62 NC
61 NC
60 NC
59 NC
58 NC
57 NC
56 TTX
55 AGND
54 VAA
53 NC
52 PAL_NTSC
51 VSO/CLAMP
50 CSO_HSO
49 RESET
P0 1
P1 2
P2 3
P3 4
P4 5
P5 6
P6 7
P7 8
P8 9
P9 10
P10 11
P11 12
P12 13
P13 14
P14 15
P15 16
TOP VIEW
48 RSET1
47 VREF
46 COMP 1
45 DAC A
44 DAC B
43 VAA
42 AGND
41 DAC C
40 DAC D
39 AGND
38 VAA
37 DAC E
36 DAC F
35 COMP 2
34 RSET2
33 AGND
17 VAA
18 AGND
19 HSYNC
20 VSYNC
21 BLANK
22 ALSB
23 TTXREQ
24 AGND
25 VAA
26 AGND
27 CLKIN
28 CLKOUT
29 VAA
30 SCL
31 SDA
32 SCRESET/RTC/TR

ADV7190 Terminal Function

Pin No.	Pin Name	I/O	Function
1~16	P0-P15	I	8-Bit or 16-Bit 4:2:2 Multiplexed YCrCb Pixel Port. The LSB of the input data is set up on Pin P0.
17, 25, 29, 38, 43, 54, 63	VAA	P	Analog Power Supply (3.3V to 5V).
18, 24, 26, 33, 39, 42, 55, 64	AGND	G	Analog Ground.
19	HSYNC	I/O	HSYNC (Modes 1, 2, and 3) Control Signal. This pin may be configured to be an output (Master Mode) or an input (Slave Mode) and accept Sync Signals.
20	VSYNC	I/O	VSYNC Control Signal. This pin may be configured as an output (Master Mode) or as an input (Slave Mode) and accept VSYNC as a Control Signal.
21	BLANK	I/O	Video Blanking Control Signal. This signal is optional. For further information see Vertical Blanking Data Insertion and BLANK Input section.
22	ALSB	I	TTL Address Input. This signal sets up the LSB of the MPU address.
23	TTXREQ	O	Teletext Data Request Output Signal, used to control teletext data transfer.
27	CLKIN	I	TTL Clock Input. Requires a stable 27 MHz reference clock for standard operation. Alternatively, a 24.5454 MHz (NTSC) or 29.5 MHz (PAL) can be used for square pixel operation.
28	CLKOUT	O	Clock Output Pin.
30	SCL	I	MPU Port Serial Interface Clock Input.
31	SDA	I/O	MPU Port Serial Data Input/Output.
32	SCRESET/RTC/TR	I	Multifunctional Input: Real-Time Control (RTC) Input, Timing Reset Input, Subcarrier Reset Input.
34	RSET2	I	A 1200 ohm resistor connected from this pin to ground is used to control full-scale amplitudes of the Video Signals from DACs D, E, and F.
35	COMP 2	O	Compensation Pin for DACs D, E, and F. Connect a 0.1μF Capacitor from COMP2 toVAA.
36	DAC F	O	S-Video C/V/RED Analog Output. This DAC is capable of providing 4.33 mA output.
37	DAC E	O	S-Video Y/U/BLUE Analog Output. This DAC is capable of providing 4.33 mA output.
40	DAC D	O	Composite/Y/GREEN Analog Output. This DAC is capable of providing 4.33 mA output.
41	DAC C	O	S-Video C/V/RED Analog Output. This DAC is capable of providing 4.33 mA output.
44	DAC B	O	S-Video Y/U/BLUE Analog Output. This DAC is capable of providing 4.33 mA output.
45	DAC A	O	Composite/Y/GREEN Analog Output. This DAC is capable of providing 4.33 mA output.
46	COMP 1	O	Compensation Pin for DACs A, B, and C. Connect a 0.1μF Capacitor from COMP1 toVAA.
47	VREF	I/O	Voltage Reference Input for DACs or Voltage Reference Output (1.235V). An external VREF cannot be used in 4x oversampling mode.
48	RSET1	I	A 1200 ohm resistor connected from this pin to ground is used to control full-scale amplitudes of the Video Signals from DACs A, B, and C.
49	RESET	I	The input resets the on-chip timing generator and sets the ADV7190/ADV7191 into default mode. See Appendix 8 for Default Register Settings.
50	CSO_HSO	O	Dual function CSO or HSO Output Sync Signal at TTL Level.
51	VSO/CLAMP	I/O	Multifunction Pin. VSO Output Sync Signal at TTL level. CLAMP TTL Output Signals can be used to drive external circuitry to enable clamping of all Video Signals.
52	PAL_NTSC	I	Input signal to select PAL or NTSC mode of operation, pin set to Logic 1 selects PAL.
53, 57~62	NC		No Connect.
56	TTX	I	Teletext Data Input Pin.

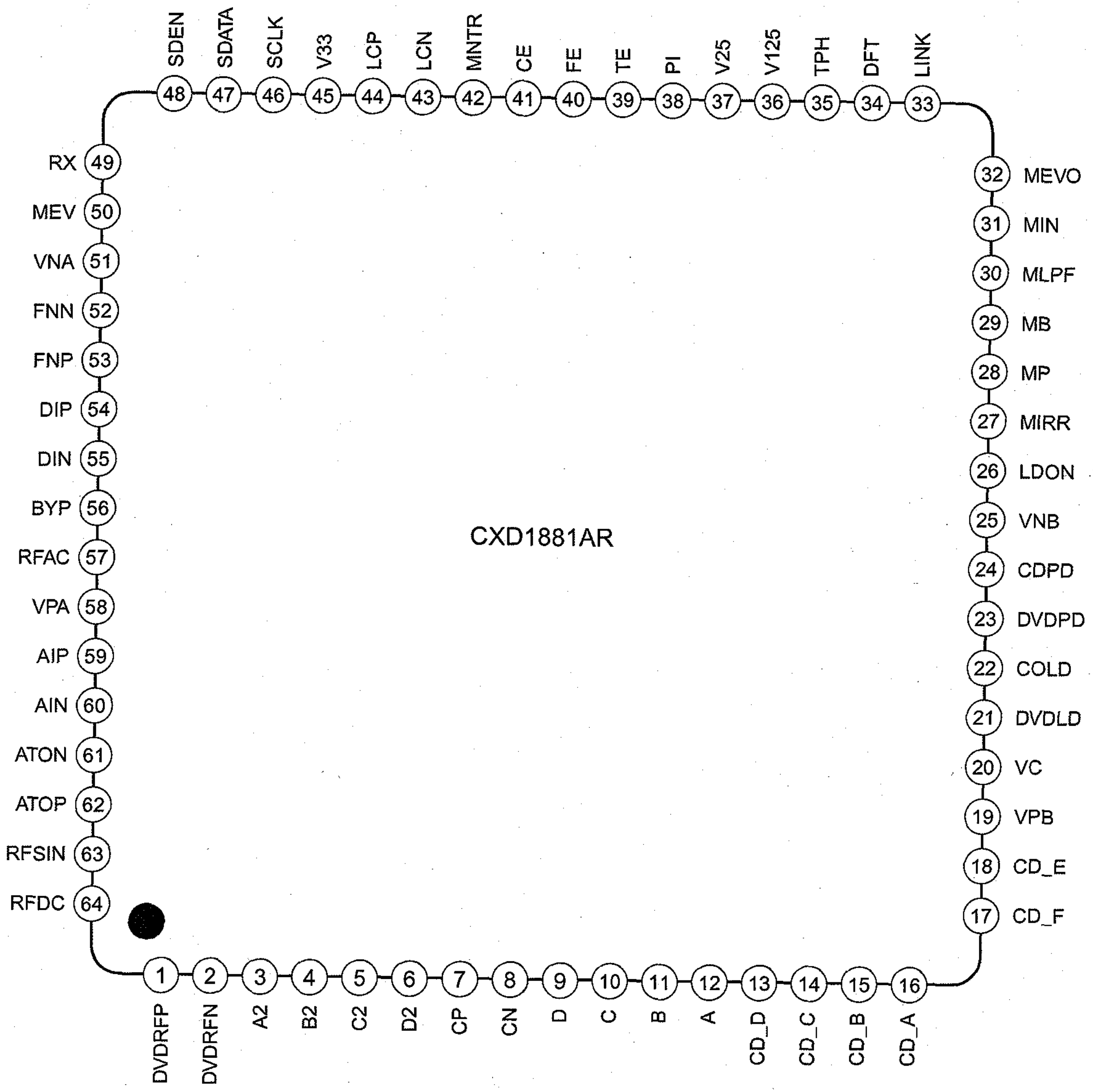
ADV7300 (VI: IC704)


TOP VIEW
1 VDD_IO
2 Y0
3 Y1
4 Y2
5 Y3
6 Y4
7 Y5
8 Y6
9 Y7
10 VDD
11 DGND
12 Y8
13 Y9
14 C0
15 C1
16 C2
17 C3
18 C4
19 SPI/I2C
20 ALSB_SO
21 SDA_CLKSP
22 SCLK_SI
23 P_HSYNC
24 P_VSYNC
25 P_BLANK
26 C5
27 C6
28 C7
29 C8
30 C9
31 RTC_SCR_TR
32 CLKIN_A
33 RESET
34 EXT_LF
35 RSET2
36 COMP2
37 DAC F
38 DAC E
39 DAC D
40 AGND
41 VAA
42 DAC C
43 DAC B
44 DAC A
45 COMP1
46 VREF
47 RSET1
48 S_BLANK
49 S_VSYNC
50 S_HSYNC
51 S0
52 S1
53 S2
54 S3
55 S4
56 VDD
57 DGND
58 S5
59 S6
60 S7
61 S8
62 S9
63 CLKIN_B
64 GND_IO

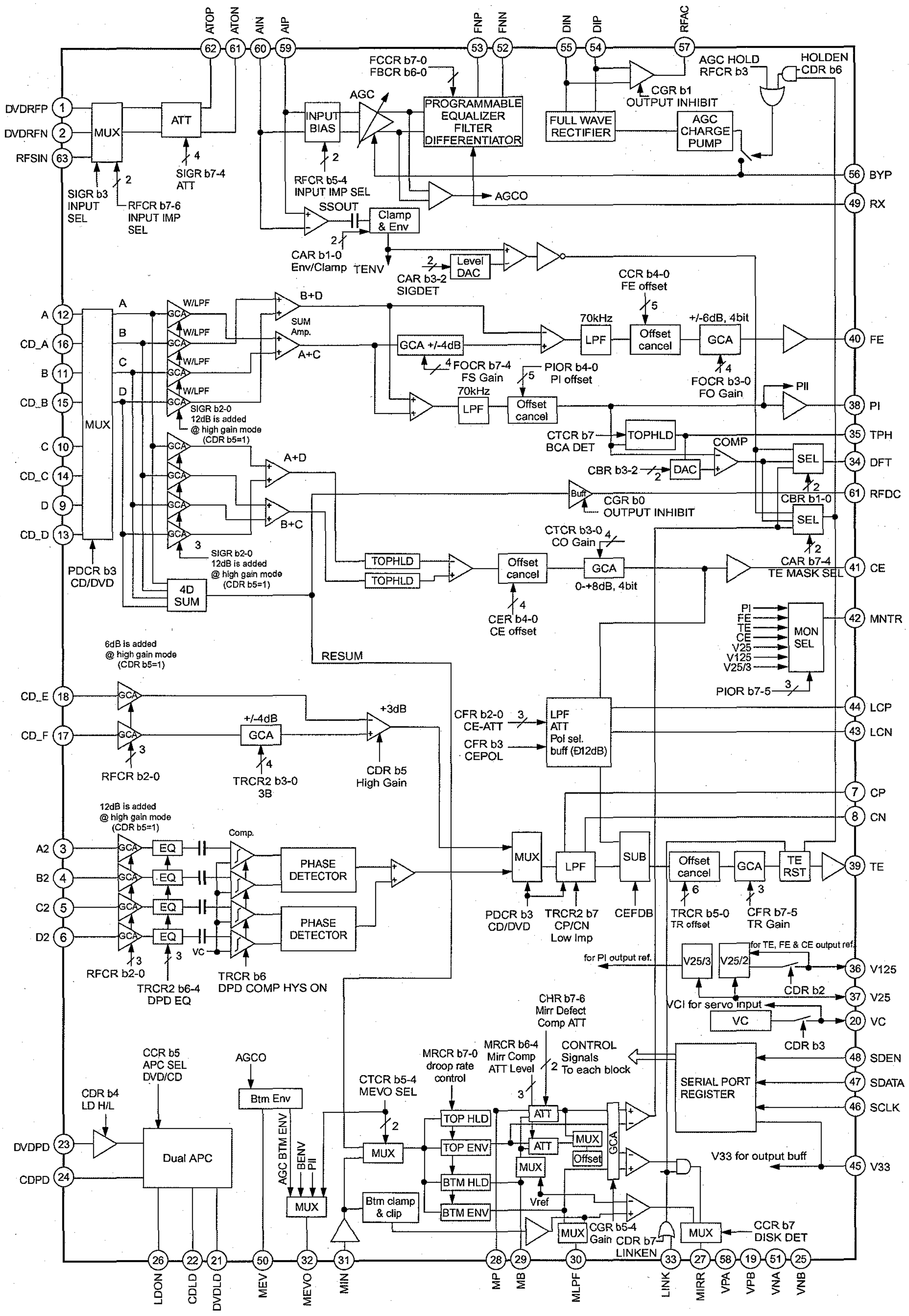
ADV7300 Terminal Function

Pin No.	Pin Name	I/O	Function
1	VDD_IO	P	Digital power supply.
2~9, 12, 13	Y9-0	I	10-Bit Progressive scan/ HDTV input port for Y data.
10, 56	VDD	P	Digital power supply.
11, 57	DGND	G	Digital Ground
14~18, 26~30	C9-0	I	10-Bit Progressive scan/ HDTV input port for CrCb color data in 4:2:2 input mode.
19	SPI/I2C	I	When this input pin is brought low, the ADV7300 interfaces over the SPI port and uses this input as part of the 4 wire SPI interface. When this input pin is tied high [VDD_IO], the ADV7300 interfaces over the I2C port.
20	ALSB_SO	I/O	Multifunctional pin.
21	SDA_CLKSP	I/O	Multifunctional pin.
22	SCLK_SI	I	Multifunctional input.
23	P_HSYNC	I	Video Horizontal Sync Control Signal for HD sync in simultaneous SD/HD mode and HD only mode.
24	P_VSYNC	I	Video Vertical Sync Control Signal for HD sync in simultaneous SD/HD mode and HD only mode.
25	P_BLANK	I	Video Blanking Control Signal for HD sync in simultaneous SD/HD mode and HD only mode.
31	RTC_SCR_TR	I	Multifunctional input.
32	CLKIN_A	I	Pixel Clock Input for HD only or SD only modes.
33	RESET	I	This input resets the on-chip timing generator and sets the ADV7300 into Default Register setting. Reset is an active low signal.
34	EXT_LF	I	External Loop filter for the internal PLL.
35, 47	RSET1,2	I	A1520 Ohms resistor must be connected from this pin to AGND and is used to control the amplitudes of the DAC outputs.
36,45	COMP	O	Compensation Pin for DACs.
37	DAC F	O	In SD only mode: Chroma/RED/V analog output. In HD only mode and simultaneus HD/SD: Pb/ BLUE (HD) analog output.
38	DAC E	O	In SD only mode: Luma/BLUE/U analog output. In HD only mode and simultaneus HD/SD: Pr/ RED (HD) analog output.
39	DAC D	O	In SD only mode: CVBS/GREEN/Y analog output. In HD only mode and simultaneus HD/SD: Y/ GREEN (HD) analog output.
40	AGND	G	Analog Ground
41	VAA	P	Analog power supply.
42	DAC C	O	Chroma/ RED/ V SD analog output.
43	DAC B	O	Luma/ BLUE/ U SD analog output.
44	DAC A	O	CVBS/ GREEN/ Y SD analog output.
46	VREF	I/O	Optional External Voltage Reference Input for DACs or Voltage Reference Output (1.235V).
48	S_BLANK	I/O	Video Blanking Control Signal for SD.
49	S_VSYNC	I/O	Video Vertical Sync Control Signal for SD.
50	S_HSYNC	I/O	Video Horizontal Control Signal for SD.
51~55, 58~62	S9-S0	I	10-Bit Standard Definition input port. Or Progressive Scan/ HDTV input port for Cr [Red/V] color data in 4:4:4 input mode.
63	CLKIN_B	I	Pixel Clock Input.
64	GND_IO	G	Digital Ground

CXD1881AR (MA: IC501)


CXD1881AR
1 DVDRFP
2 DVDRFN
3 A2
4 B2
5 C2
6 D2
7 CP
8 CN
9 D
10 C
11 B
12 A
13 CD_D
14 CD_C
15 CD_B
16 CD_A
17 CD_F
18 CD_E
19 VPB
20 VC
21 DVDLD
22 COLD
23 DVDPD
24 CDPD
25 VNB
26 LDON
27 MIRR
28 MP
29 MB
30 MLPF
31 MIN
32 MEVO
33 LINK
34 DFT
35 TPH
36 V125
37 V25
38 PI
39 TE
40 FE
41 CE
42 MNTR
43 LCN
44 LCP
45 V33
46 SCLK
47 SDATA
48 SDEN
49 RX
50 MEV
51 VNA
52 FNN
53 FNP
54 DIP
55 DIN
56 BYP
57 RFAC
58 VPA
59 AIP
60 AIN
61 ATON
62 ATOP
63 RFSIN
64 RFDC

Block Diagram


ATOP
ATON
AIN
AIP
FNP
FNN
DIN
DIP
RFAC
62
61
60
59
53
52
55
54
57
DVDRFP 1
DVDRFN 2
RFSIN 63
MUX
ATT
SIGR b3 INPUT SEL
RFCR b7-6 INPUT IMP SEL
SIGR b7-4 ATT
INPUT BIAS
AGC
RFCR b5-4 INPUT IMP SEL
FCCR b7-0
FBCR b6-0
PROGRAMMABLE EQUALIZER FILTER DIFFERENTIATOR
AGCO
SSOUT
Clamp & Env
CAR b1-0 Env/Clamp
TENV
CAR b3-2
SIGDET
Level DAC
FULL WAVE RECTIFIER
CGR b1 OUTPUT INHIBIT
AGC CHARGE PUMP
AGC HOLD RFCR b3
HOLDEN CDR b6
56 BYP
49 RX
A 12
CD_A 16
B 11
CD_B 15
C 10
CD_C 14
D 9
CD_D 13
MUX
PDCR b3 CD/DVD
W/LPF
GCA
SUM Amp.
B+D
A+C
A+D
B+C
SIGR b2-0 12dB is added @ high gain mode (CDR b5=1)
4D SUM
GCA +/-4dB
FOCR b7-4 FS Gain
70kHz
LPF
Offset cancel
PIOR b4-0 PI offset
CCR b4-0 FE offset
+/-6dB, 4bit
GCA
FOCR b3-0 FO Gain
40 FE
PII
38 PI
CTCR b7 BCA DET
TOPHLD
COMP
35 TPH
CBR b3-2
DAC
SEL
34 DFT
Buff
CGR b0 OUTPUT INHIBIT
CBR b1-0
61 RFDC
SEL
CTCR b3-0 CO Gain
CAR b7-4 TE MASK SEL
41 CE
TOPHLD
TOPHLD
Offset cancel
CER b4-0 CE offset
0-+8dB, 4bit
PI FE TE CE V25 V125 V25/3
MON SEL
42 MNTR
PIOR b7-5
RESUM
6dB is added @ high gain mode (CDR b5=1)
CD_E 18
CD_F 17
RFCR b2-0
+/-4dB
TRCR2 b3-0 3B
+3dB
CDR b5 High Gain
CFR b2-0 CE-ATT
CFR b3 CEPOL
LPF ATT Pol sel. buff (Ð12dB)
44 LCP
43 LCN
7 CP
8 CN
12dB is added @ high gain mode (CDR b5=1)
A2 3
B2 4
C2 5
D2 6
EQ
Comp.
PHASE DETECTOR
PHASE DETECTOR
VC
RFCR b2-0
TRCR2 b6-4 DPD EQ
TRCR b6 DPD COMP HYS ON
MUX
LPF
SUB
PDCR b3 CD/DVD
TRCR2 b7 CP/CN Low Imp
CEFDB
TRCR b5-0 TR offset
CFR b7-5 TR Gain
TE RST
39 TE
for PI output ref.
V25/3
V25/2
for TE, FE & CE output ref.
36 V125
CDR b2
37 V25
VCI for servo input
VC
20 VC
CDR b3
CHR b7-6 Mirr Defect Comp ATT
MRCR b6-4 Mirr Comp ATT Level
MRCR b7-0 droop rate control
CONTROL Signals To each block
SERIAL PORT REGISTER
48 SDEN
47 SDATA
46 SCLK
V33 for output buff
45 V33
CCR b5 APC SEL DVD/CD
CDR b4 LD H/L
DVDPD 23
CDPD 24
Dual APC
AGCO
Btm Env
AGC BTM ENV
BENV
PII
MUX
CTCR b5-4 MEVO SEL
MUX
TOP HLD
TOP ENV
BTM HLD
BTM ENV
Btm clamp & clip
ATT
ATT
MUX
MUX
Offset
GCA
Vref
MUX
CGR b5-4 Gain
CDR b7 LINKEN
MUX
CCR b7 DISK DET
26 LDON
22 CDLD
21 DVDLD
50 MEV
32 MEVO
31 MIN
28 MP
29 MB
30 MLPF
33 LINK
27 MIRR
58 VPA
19 VPB
51 VNA
25 VNB

Terminal Function

Power Supply Pins

Name	I/O	Function
VPA	-	Power for RF and serial port
VPB	-	Power for servo
VNA	-	GND for RF and serial port
VNB	-	GND for servo
V33	-	Power for output buffer
V25	-	Reference Power for servo output

Input Pins

Name	I/O	Function
DVDRFP,DVDRFN	I	RF signal input
RFSIN	I	RF signal input
AIP,AIN	I	AGC amp. input
DIP,DIN	I	Analog input for RF single buffer
A,B,C,D	I	Photo detector interface input
A2,B2,C2,D2	I	Photo detector interface input
CD_A,B,C,D	I	CD photo detector interface input
CD_E,F	I	CD photo detector interface input
MIN	I	RF signal input for mirror
DVDPD	I	APC input
CDPD	I	APC input
LDON	I	APC input ON/OFF (L:Open)
LINK	I	Link signal input (L:Open)
	O	Mirror monitor output

Output Pins

Name	I/O	Function
ATOP,ATON	O	Differential attenuator output
FNP,FNN	O	Differential normal output
RFAC	O	Single end normal output
RFDC	O	RF signal output
FE	O	Focus error signal output
TE	O	Tracking error signal output
CE	O	Center error signal output
MEVO	O	RFDDC bottom envelope output
DFT	O	Defect output
MIRR	O	Mirror detected output
PI	O	Pull-in signal output
DVDLD	O	APC output
CDLD	O	APC output
MNTR	O	Monitor output

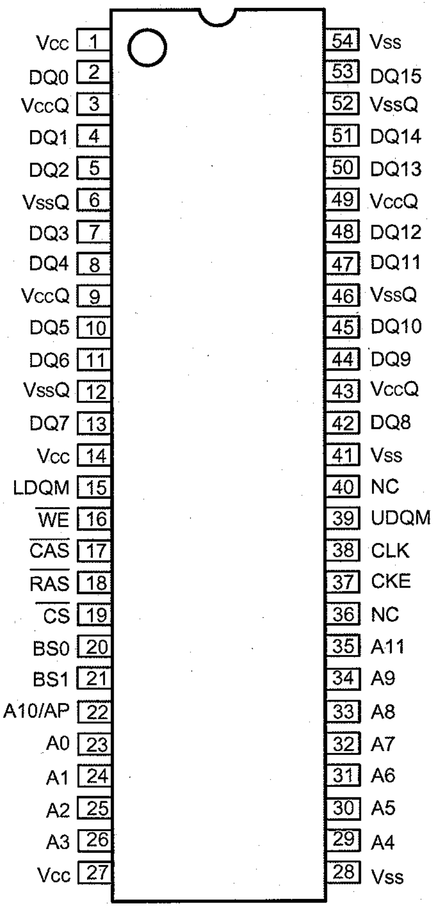
Analog Pins

Name	I/O	Function
BYP	-	RF AGC integration capacitor connecting terminal
CP	-	Differential phase tracking LPF terminal
CN	-	Differential phase tracking LPF terminal
LCP	-	Lens shift offset cancel LPF terminal
LCN	-	Lens shift offset cancel LPF terminal
MP	-	MIRR top hold terminal
MB	-	MIRR bottom hold terminal
MEV	-	RFDC bottom envelope terminal
MLPF	-	Mirror LPF terminal
TPH	-	PI top hold terminal
VC	-	Reference voltage output
V125	-	Reference voltage output
RX	-	Reference resistor input

Serial Port Pins

Name	I/O	Function
SDEN	I	Serial data enable
SDATA	I/O	Serial data
SCLK	I	Serial clock

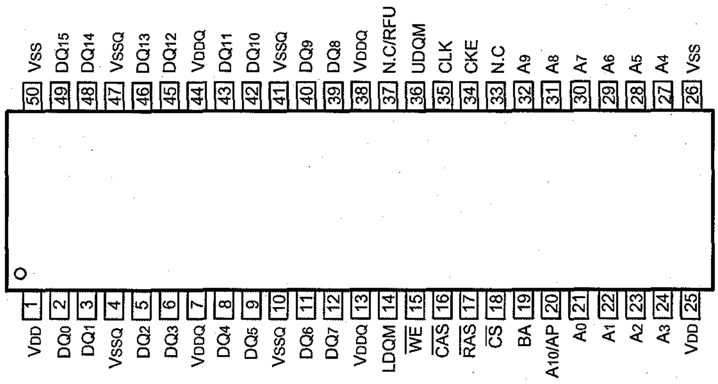
W986416DH (MA: IC104)


Vcc 1
DQ0 2
VccQ 3
DQ1 4
DQ2 5
VssQ 6
DQ3 7
DQ4 8
VccQ 9
DQ5 10
DQ6 11
VssQ 12
DQ7 13
Vcc 14
LDQM 15
$\overline{\text{WE}}$ 16
$\overline{\text{CAS}}$ 17
$\overline{\text{RAS}}$ 18
$\overline{\text{CS}}$ 19
BS0 20
BS1 21
A10/AP 22
A0 23
A1 24
A2 25
A3 26
Vcc 27
54 Vss
53 DQ15
52 VssQ
51 DQ14
50 DQ13
49 VccQ
48 DQ12
47 DQ11
46 VssQ
45 DQ10
44 DQ9
43 VccQ
42 DQ8
41 Vss
40 NC
39 UDQM
38 CLK
37 CKE
36 NC
35 A11
34 A9
33 A8
32 A7
31 A6
30 A5
29 A4
28 Vss

W986416DH Terminal Function

Pin No.	Pin Name	Function	Description
1, 14, 27	Vcc	Power (+3.3V)	Power for input buffers and logic circuit inside DRAM.
2, 4, 5, 7, 8, 10, 11, 13, 42, 44, 45, 47, 48, 50, 51, 53	DQ0-DQ15	Data Input/Output	Multiplexed pins for data output and input.
3, 9, 43, 49	VccQ	Power (+3.3V) for I/O buffer	Separated power from VCC, to improve DQ noise immunity.
6, 12, 46, 52	VssQ	Ground for I/O buffer	Separated ground from VSS, to improve DQ noise immunity.
16	$\overline{\text{WE}}$	Write Enable	Referred to $\overline{\text{RAS}}$.
17	$\overline{\text{CAS}}$	Column Address Strobe	Referred to $\overline{\text{RAS}}$.
18	$\overline{\text{RAS}}$	Row Address Strobe	Command input. When sampled at the rising edge of the clock $\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ define the operation to be executed.
19	$\overline{\text{CS}}$	Chip Select	Disable or enable the command decoder. When command decoder is disabled, new command is ignored and previous operation continues.
20, 21	BS0, BS1	Bank Select	Select bank to activate during row address latch time, or bank to read/write during address latch time.
23~26, 22 29~35	A0-A11	Address	Multiplexed pins for row and column address. Row address: A0-A11. Column address: A0-A7. A10 is sampled during a precharge command to determine if all banks are to be precharged or bank selected by BS0, BS1.
28, 41, 54	Vss	Ground	Ground for input buffers and logic circuit inside DRAM.
36, 40	NC	No Connection	No Connection
37	CKE	Clock Enable	CKE controls the clock activation and deactivation. When CKE is low, Power Down mode, Suspend mode, or Self Refresh mode is entered.
38	CLK	Clock Inputs	System clock used to sample inputs on the rising edge of clock.
39, 15	UDQM, LDQM	Input/Output mask	The output buffer is placed at Hi-Z (with latency of 2) when DQM is sampled high in read cycle. In write cycle, sampling DQM high will block the write operation with zero latency.

16MSDRAM (TOSP)-8 (MA: IC402)

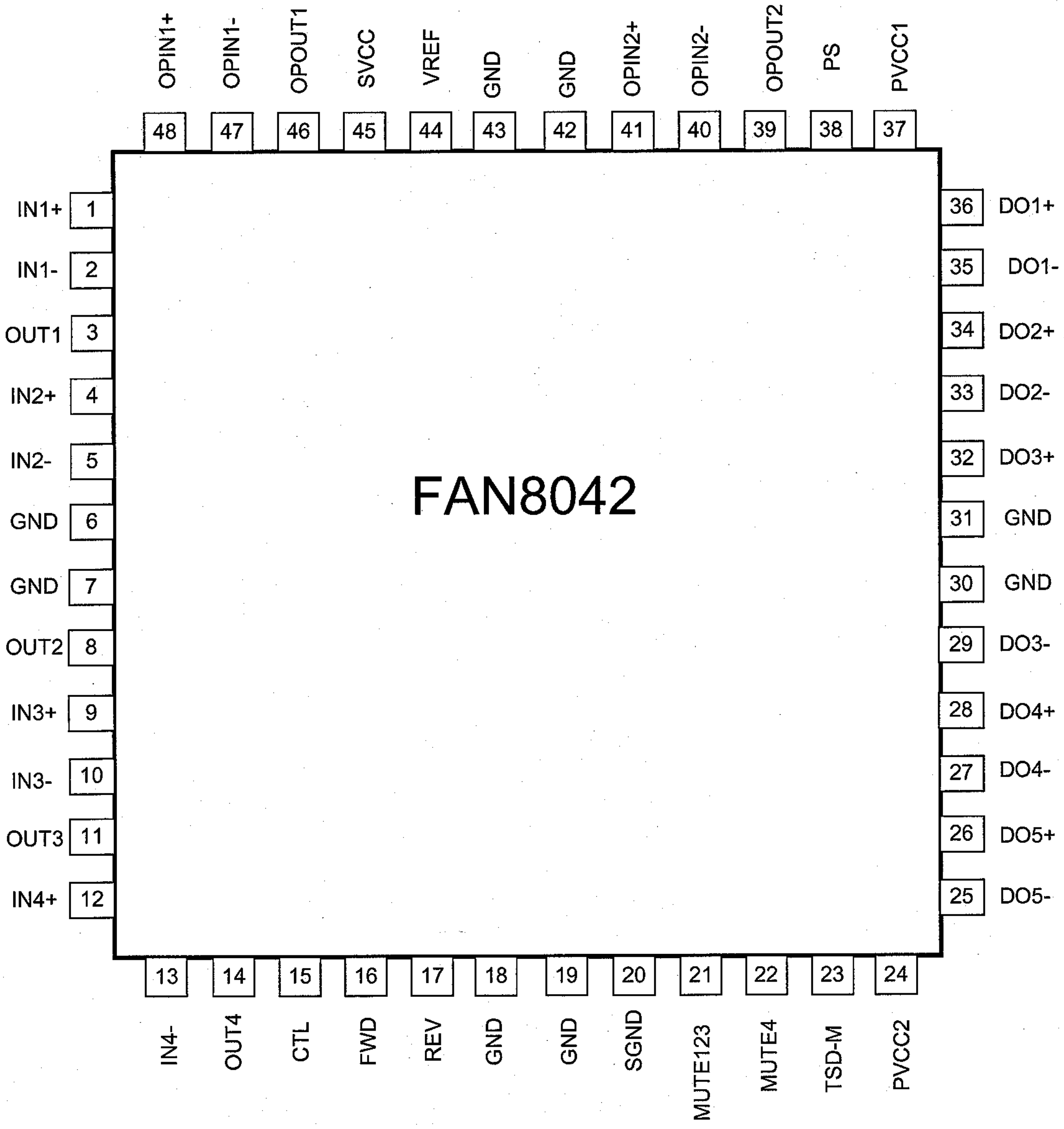


Terminal Function

Pin No.	Pin Name	Symbol	Function
1	V_{DD}	Power Supply/Ground	Power and ground for the input buffer and the core logic
2	DQ_0	Data Input/Output	Data input/output are mutiplexed on the same pin
3	DQ_1	Data Input/Output	Data input/output are mutiplexed on the same pin
4	V_{SSQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
5	DQ_2	Data Input/Output	Data input/output are mutiplexed on the same pin
6	DQ_3	Data Input/Output	Data input/output are mutiplexed on the same pin
7	V_{DDQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
8	DQ_4	Data Input/Output	Data input/output are mutiplexed on the same pin
9	DQ_5	Data Input/Output	Data input/output are mutiplexed on the same pin
10	V_{SSQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
11	DQ_6	Data Input/Output	Data input/output are multiplexed on the same pin
12	DQ_7	Data Input/Output	Data input/output are multiplexed on the same pin
13	V_{DDQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
14	L DQM	Data Input/Output Mask	Blocks data input when active
15	$\overline{WE}$	Write Enable	Enables write operation and row precharge
16	$\overline{CAS}$	Column Address Strobe	Latches column address on the positive going edge of the CLK at low
17	$\overline{RAS}$	Row Address Strobe	Latches row address on the positive going edge of the CLK at low
18	$\overline{CS}$	Chip Select	Disables or enables device operation by masking or enabling all inputs except CLK, CKE, and LDQM
19	BA	Bank Select Address	Selects bank to be activated during row address latch time
20	A_{10}/AP	Address	Row/column addresses are multiplexed on the same pin
21	A_0	Address	Row/column addresses are multiplexed on the same pin
22	A_1	Address	Row/column addresses are multiplexed on the same pin
23	A_2	Address	Row/column addresses are multiplexed on the same pin
24	A_3	Address	Row/column addresses are multiplexed on the same pin
25	V_{DD}	Power Supply/Ground	Power and ground for the input buffer and the core logic
26	V_{SS}	Power Supply/Ground	Power and ground for the input buffer and the core logic
27	A_4	Address	Row/column addresses are multiplexed on the same pin
28	A_5	Address	Row/column addresses are multiplexed on the same pin
29	A_6	Address	Row/column addresses are multiplexed on the same pin
30	A_7	Address	Row/column addresses are multiplexed on the same pin
31	A_8	Address	Row/column addresses are multiplexed on the same pin
32	A_9	Address	Row/column addresses are multiplexed on the same pin
33	N. C	No Connection	No connect pin
34	CKE	Clock Enable	Masks system clock to freeze operation from the next clock cycle
35	CLK	System Clock	Active on the positive going edge to sample all inputs
36	U DQM	Data Input/Output Mask	Blocks data input when active
37	N. C/RFU	NC/Reserved	No connect pin
38	V_{DDQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
39	DQ_8	Data Input/Output	Data input/output are multiplexed on the same pin
40	DQ_9	Data Input/Output	Data input/output are multiplexed on the same pin
41	V_{SSQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
42	DQ_{10}	Data Input/Output	Data input/output are multiplexed on the same pin
43	DQ_{11}	Data Input/Output	Data input/output are multiplexed on the same pin
44	V_{DDQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
45	DQ_{12}	Data Input/Output	Data input/output are multiplexed on the same pin
46	DQ_{13}	Data Input/Output	Data input/output are multiplexed on the same pin
47	V_{SSQ}	Data Output Power/Ground	Isolated power supply and ground for the output buffer
48	DQ_{14}	Data Input/Output	Data input/output are multiplexed on the same pin
49	DQ_{15}	Data Input/Output	Data input/output are multiplexed on the same pin
50	V_{SS}	Power Supply/Ground	Power and ground for the input buffer and the core logic

FAN8042 (MA: IC508)

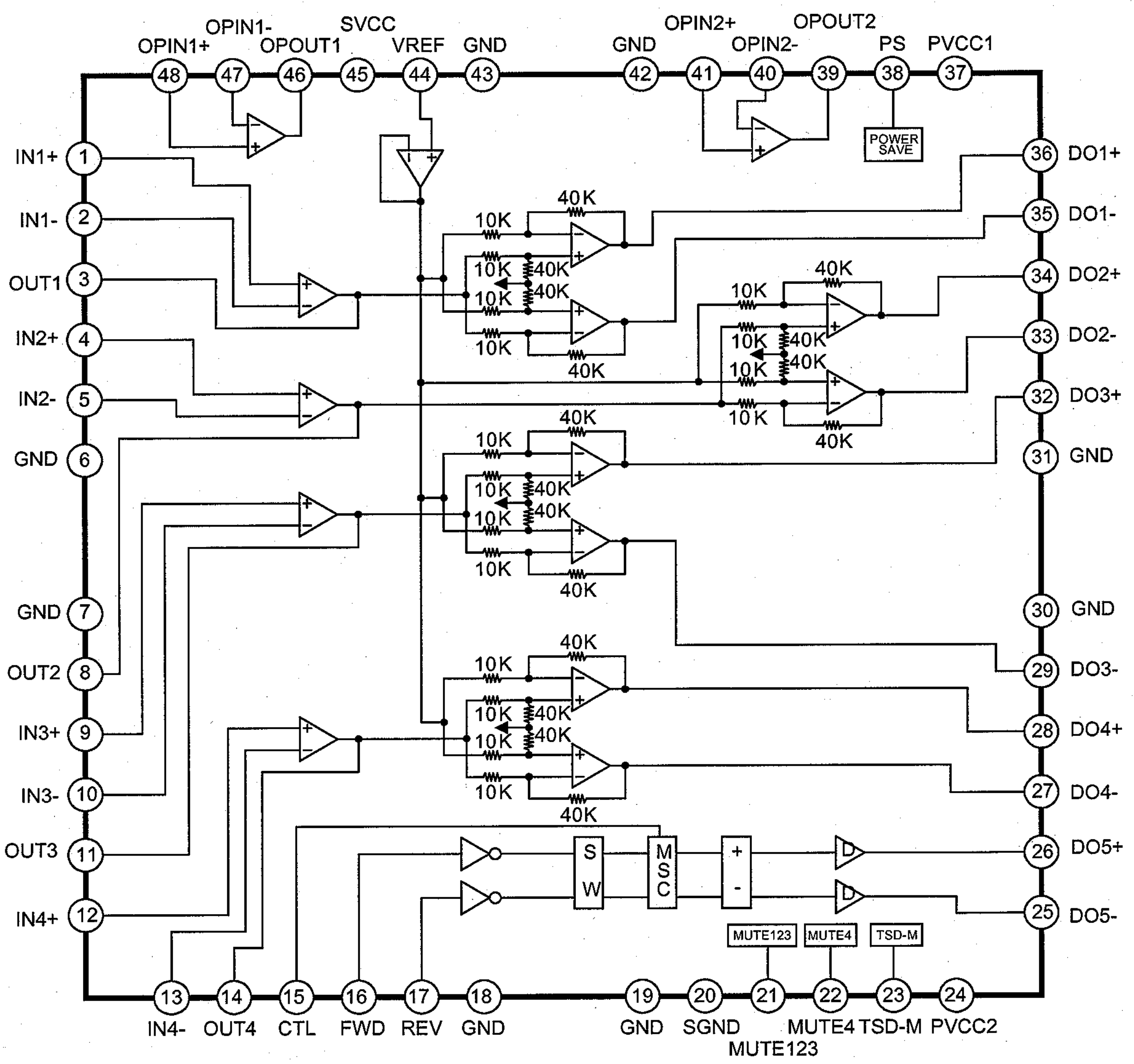
Pin Assignments


FAN8042
1 IN1+
2 IN1-
3 OUT1
4 IN2+
5 IN2-
6 GND
7 GND
8 OUT2
9 IN3+
10 IN3-
11 OUT3
12 IN4+
13 IN4-
14 OUT4
15 CTL
16 FWD
17 REV
18 GND
19 GND
20 SGND
21 MUTE123
22 MUTE4
23 TSD-M
24 PVCC2
25 DO5-
26 DO5+
27 DO4-
28 DO4+
29 DO3-
30 GND
31 GND
32 DO3+
33 DO2-
34 DO2+
35 DO1-
36 DO1+
37 PVCC1
38 PS
39 OPOUT2
40 OPIN2-
41 OPIN2+
42 GND
43 GND
44 VREF
45 SVCC
46 OPOUT1
47 OPIN1-
48 OPIN1+

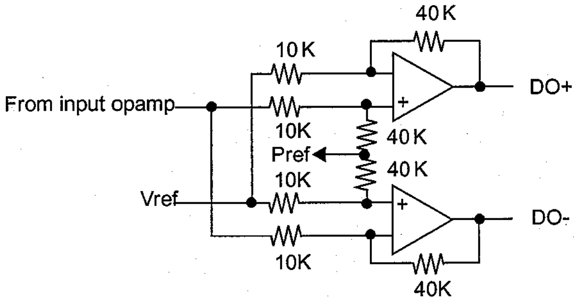
Pin Definitions

Pin Number	Pin Name	I/O	Pin Function Descrition
1	IN1+	I	CH1 op-amp input (+)
2	IN1-	I	CH1 op-amp input (-)
3	OUT1	O	CH1 op-amp output
4	IN2+	I	CH2 op-amp input (+)
5	IN2-	I	CH2 op-amp input (-)
6	GND	-	Ground
7	GND	-	Ground
8	OUT2	O	CH2 op-amp output
9	IN3+	I	CH3 op-amp input (+)
10	IN3-	I	CH3 op-amp input (-)
11	OUT3	O	CH3 op-amp output
12	IN4+	I	CH4 op-amp input (+)
13	IN4-	I	CH4 op-amp input (-)
14	OUT4	O	CH4 op-amp output
15	CTL	I	CH5 motor speed control
16	FWD	I	CH5 forward input
17	REV	I	CH5 reverse input
18	GND	-	Ground
19	GND	-	Ground
20	SGND	-	Signal Ground
21	MUTE123	I	Mute for CH1,2,3
22	MUTE4	I	Mute for CH4
23	TSD-M	O	TSD monitor
24	PVCC2	-	Power supply voltage 2 (For CH4,CH5)
25	DO5-	O	CH5 drive output (-)
26	DO5+	O	CH5 drive output (+)
27	DO4-	O	CH4 drive output (-)
28	DO4+	O	CH4 drive output (+)
29	DO3-	O	CH3 drive output (-)
30	GND	-	Ground
31	GND	-	Ground
32	DO3+	O	CH3 drive output (+)
33	DO2-	O	CH2 drive output (-)
34	DO2+	O	CH2 drive output (+)
35	DO1-	O	CH1 drive output (-)
36	DO1+	O	CH1 drive output (+)
37	PVCC1	-	Power supply voltage 1 (FOR CH1 CH2,CH3)
38	PS	I	Power save
39	OPOUT2	O	Normal op-amp2 output
40	OPIN2-	I	Normal op-amp2 input (-)
41	OPIN2+	I	Normal op-amp2 input (+)
42	GND	-	Ground
43	GND	-	Ground
44	VREF	I	Bias voltage input
45	SVCC	-	Signal & OPAMPs supply voltage
46	OPOUT1	O	Normal op-amp1 output
47	OPIN1-	I	Normal op-amp1 input (-)
48	OPIN1+	I	Normal op-amp1 input (+)

Block Diagram

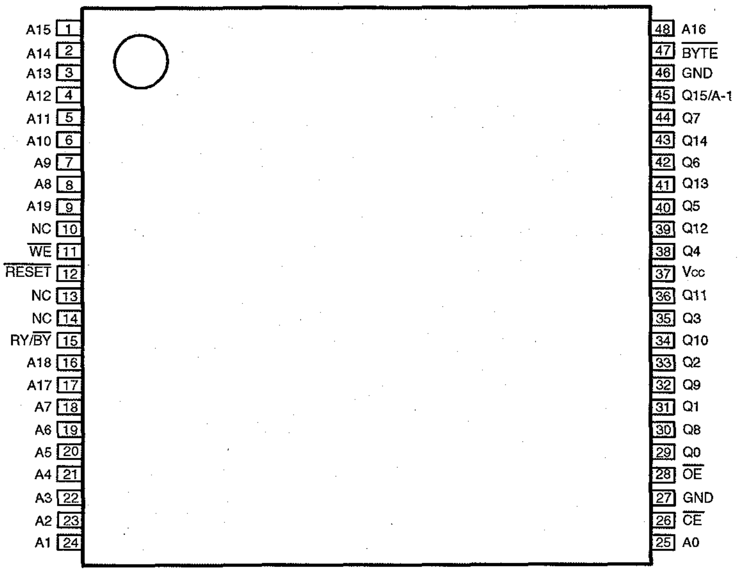

OPIN1+
OPIN1-
OPOUT1
SVCC
VREF
GND
GND
OPIN2+
OPIN2-
OPOUT2
PS
PVCC1
48
47
46
45
44
43
42
41
40
39
38
37
POWER SAVE
IN1+ 1
IN1- 2
OUT1 3
IN2+ 4
IN2- 5
GND 6
GND 7
OUT2 8
IN3+ 9
IN3- 10
OUT3 11
IN4+ 12
36 DO1+
35 DO1-
34 DO2+
33 DO2-
32 DO3+
31 GND
30 GND
29 DO3-
28 DO4+
27 DO4-
26 DO5+
25 DO5-
10K
40K
S
W
M
S
C
+
-
D
MUTE123
MUTE4
TSD-M
13
14
15
16
17
18
19
20
21
22
23
24
IN4-
OUT4
CTL
FWD
REV
GND
GND
SGND
MUTE123
MUTE4
TSD-M
PVCC2

Note. Detailed circuit of the output power amp


40K
10K
From input opamp
10K
Pref
40K
40K
10K
Vref
10K
40K
DO+
DO-

Pref1 is almost PVCC1 / 2
Pref2 is almost PVCC2 / 2

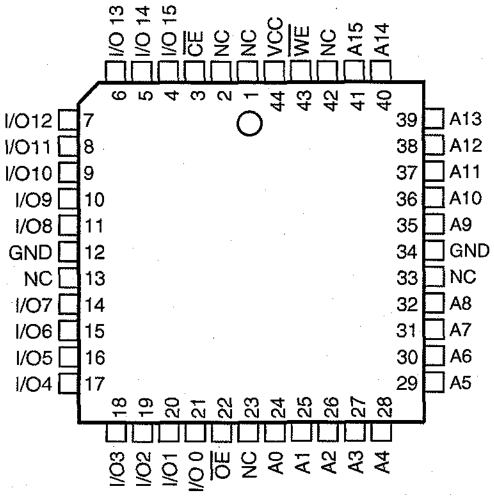
MX29LV160BTC-90 (MA: IC103)


A15 1
A14 2
A13 3
A12 4
A11 5
A10 6
A9 7
A8 8
A19 9
NC 10
WE 11
RESET 12
NC 13
NC 14
RY/BY 15
A18 16
A17 17
A7 18
A6 19
A5 20
A4 21
A3 22
A2 23
A1 24
48 A16
47 BYTE
46 GND
45 Q15/A-1
44 Q7
43 Q14
42 Q6
41 Q13
40 Q5
39 Q12
38 Q4
37 Vcc
36 Q11
35 Q3
34 Q10
33 Q2
32 Q9
31 Q1
30 Q8
29 Q0
28 OE
27 GND
26 CE
25 A0

Pin Description

Symbol	Pin Name
A0~A19	Address Input
Q0~Q14	Data Input/Output
Q15/A-1	Q15 (Word mode)/LSB addr (Byte mode)
$\overline{\text{CE}}$	Chip Enable Input
$\overline{\text{WE}}$	Write Enable Input
$\overline{\text{BYTE}}$	Word/Byte Selection input
$\overline{\text{RESET}}$	Hardware Reset Pin/Sector Protect Unlock
$\overline{\text{OE}}$	Output Enable Input
RY/$\overline{\text{BY}}$	Ready/Busy Output
Vcc	Power Supply Pin (2.7V~3.6V)
GND	Ground Pin

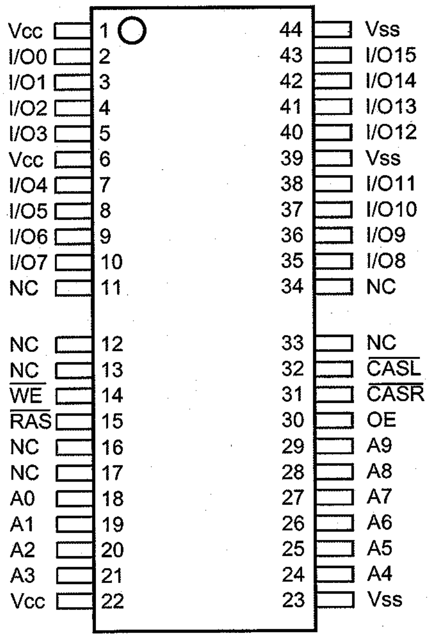
AT49LV1025 (MA: IC302)


I/O 13 6
I/O 14 5
I/O 15 4
CE 3
NC 2
NC 1
VCC 44
WE 43
NC 42
A15 41
A14 40
I/O12 7
I/O11 8
I/O10 9
I/O9 10
I/O8 11
GND 12
NC 13
I/O7 14
I/O6 15
I/O5 16
I/O4 17
39 A13
38 A12
37 A11
36 A10
35 A9
34 GND
33 NC
32 A8
31 A7
30 A6
29 A5
18 I/O3
19 I/O2
20 I/O1
21 I/O 0
22 OE
23 NC
24 A0
25 A1
26 A2
27 A3
28 A4

Terminal Function

Pin Name	Function
A0-A15	Address Inputs
$\overline{\text{CE}}$	Chip Enable
$\overline{\text{OE}}$	Output Enable
$\overline{\text{WE}}$	Write Enable
I/O0-I/O15	Data Inputs/Outputs
NC	No Connection

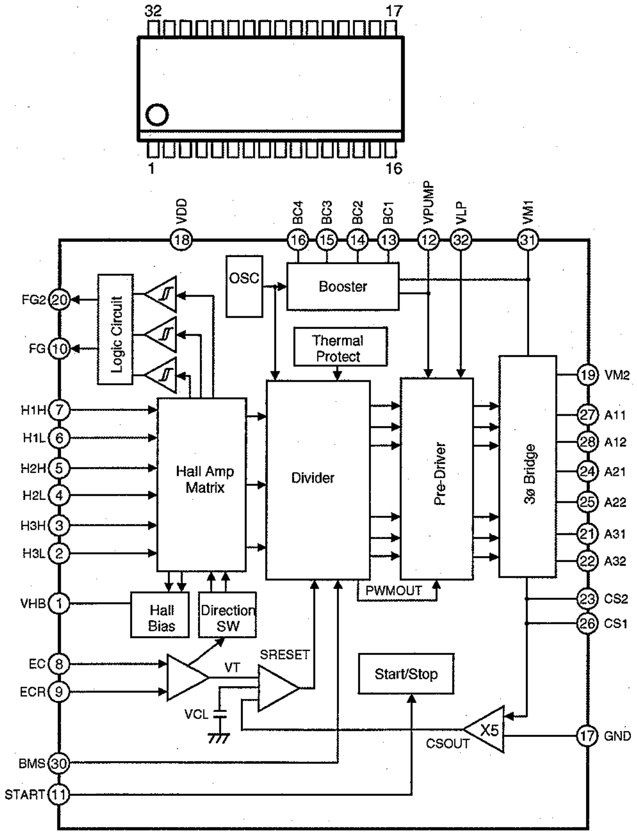
M11L16161SA (MA: IC503)


Vcc 1
I/O0 2
I/O1 3
I/O2 4
I/O3 5
Vcc 6
I/O4 7
I/O5 8
I/O6 9
I/O7 10
NC 11
NC 12
NC 13
$\overline{WE}$ 14
$\overline{RAS}$ 15
NC 16
NC 17
A0 18
A1 19
A2 20
A3 21
Vcc 22
44 Vss
43 I/O15
42 I/O14
41 I/O13
40 I/O12
39 Vss
38 I/O11
37 I/O10
36 I/O9
35 I/O8
34 NC
33 NC
32 $\overline{CASL}$
31 $\overline{CASR}$
30 OE
29 A9
28 A8
27 A7
26 A6
25 A5
24 A4
23 Vss

PIN DESCRIPTIONS

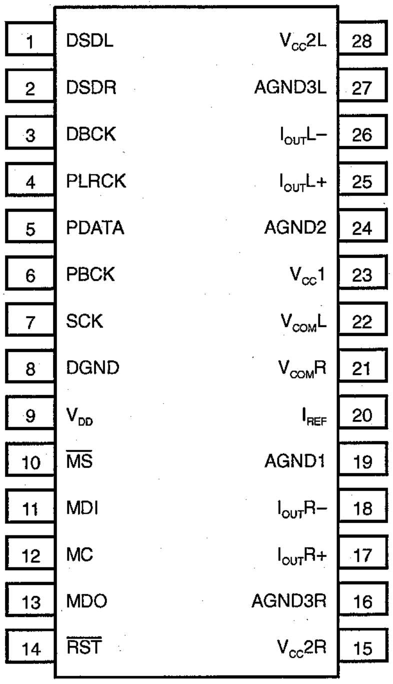
PIN NO. (SOJ Package)	PIN NAME	TYPE	DESCRIPTION
17~20,23~28	A0~A9	Input	Address Input Row Address:A0~A9 Column Address:A0~A9
14	$\overline{RAS}$	Input	Row Address Strobe
30	$\overline{CASH}$	Input	Column Address Strobe/Upper Byte Control
31	$\overline{CASL}$	Input	Column Address Strobe/Lower Byte Control
13	$\overline{WE}$	Input	Write Enable
29	$\overline{OE}$	Input	Output Enable
2~5,7~10, 33~36,38~41	I/O0~I/O15	Input/Output	Data Input/Output
1,6,21	Vcc	Supply	Power,(5V or 3.3V)
22,37,42	Vss	Ground	Ground
11,12,15,16,32	NC	-	No Connect

AN8471SA (MA: IC505)

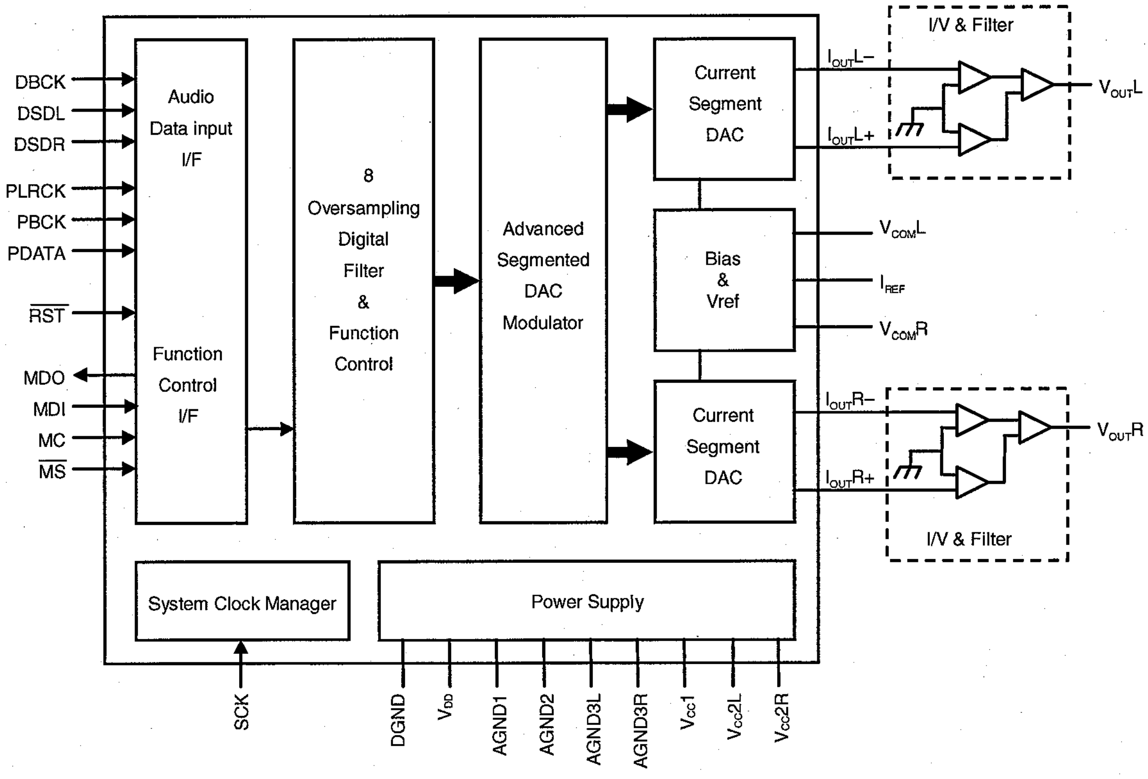

32
17
1
16
VDD
BC4
BC3
BC2
BC1
VPUMP
VLP
VM1
18
16
15
14
13
12
32
31
OSC
Booster
Thermal Protect
Logic Circuit
FG2 20
FG 10
H1H 7
H1L 6
H2H 5
H2L 4
H3H 3
H3L 2
VHB 1
EC 8
ECR 9
BMS 30
START 11
Hall Amp Matrix
Divider
Pre-Driver
3ø Bridge
19 VM2
27 A11
28 A12
24 A21
25 A22
21 A31
22 A32
23 CS2
26 CS1
17 GND
Hall Bias
Direction SW
PWMOUT
SRESET
VT
VCL
Start/Stop
X5
CSOUT

Pin No.	Pin Name	Function
1	VHB	Hall bias pin
2	H3L	Hall element 3 input (-)
3	H3H	Hall element 3 input (+)
4	H2L	Hall element 2 input (-)
5	H2H	Hall element 2 input (+)
6	H1L	Hall element 1 input (-)
7	H1H	Hall element 1 input (+)
8	EC	Torque command input pin
9	ECR	Torque command ref. input pin
10	FG1	FG signal lout put pin (0.C)
11	START	Start/Stop switching pin
12	VPUMP	Booster pin
13	BC1	Booster cap. connecting pin 1
14	BC2	Torque command input pin 2
15	BC3	Torque command input pin 3
16	BC4	Torque command input pin 4
17	GND	GND pin
18	V_{DD}	Power pin
19	VM2	Motor power pin 2
20	FG2	3x FG signal output pin (0.C)
21	A31	Drive output 3
22	A32	Drive output 3
23	CS2	Current detect pin 2
24	A21	Drive output 2
25	A22	Drive output 2
26	CS1	Current detect pin 1
27	A11	Drive output 1
28	A12	Drive output 1
29	NC	N.C.
30	BMS	Brake mode switching pin
31	VM1	Motor power pin 1
32	VLP	Pre-driver lower power

DSD1790DBR (AU: IC206, 209, 212)


1 DSDL
2 DSDR
3 DBCK
4 PLRCK
5 PDATA
6 PBCK
7 SCK
8 DGND
9 V_{DD}
10 $\overline{MS}$
11 MDI
12 MC
13 MDO
14 $\overline{RST}$
28 $V_{CC}2L$
27 AGND3L
26 $I_{OUT}L-$
25 $I_{OUT}L+$
24 AGND2
23 $V_{CC}1$
22 $V_{COM}L$
21 $V_{COM}R$
20 I_{REF}
19 AGND1
18 $I_{OUT}R-$
17 $I_{OUT}R+$
16 AGND3R
15 $V_{CC}2R$

Block Diagram

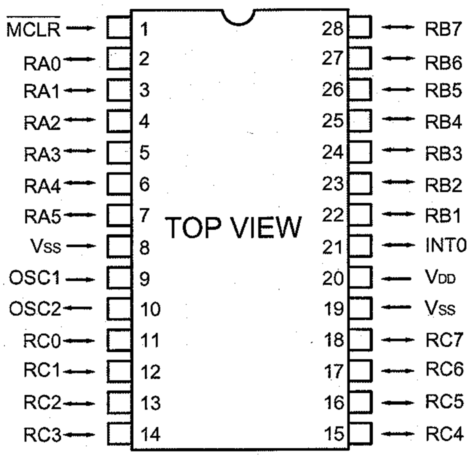

DBCK
DSDL
DSDR
PLRCK
PBCK
PDATA
$\overline{RST}$
MDO
MDI
MC
$\overline{MS}$
Audio Data input I/F
Function Control I/F
8 Oversampling Digital Filter & Function Control
Advanced Segmented DAC Modulator
Current Segment DAC
Bias & Vref
Current Segment DAC
I/V & Filter
$I_{OUT}L-$
$I_{OUT}L+$
$V_{OUT}L$
$V_{COM}L$
I_{REF}
$V_{COM}R$
$I_{OUT}R-$
$I_{OUT}R+$
$V_{OUT}R$
I/V & Filter
System Clock Manager
Power Supply
SCK
DGND
V_{DD}
AGND1
AGND2
AGND3L
AGND3R
$V_{CC}1$
$V_{CC}2L$
$V_{CC}2R$

Terminal Function

TERMINAL NAME	PIN	I/O	DESCRIPTIONS
DSDL	1	I/O	L-channel audio data input for DSD and external DF modes‡ PCM mode zero flag for L-channel by ZERO output mode select
DSDR	2	I/O	R-channel audio data input for DSD and external DF modes‡ PCM mode zero flag for R-channel by ZERO output mode select
DBCK	3	I	Bit clock input for external DF and DSD modes†
PLRCK	4	I	Left and right clock (f_S) input for normal operation. WDCK clock input for external DF mode. Connected to GND for DSD mode†
PDATA	5	I	Serial audio data input for normal operation†
PBCK	6	I	Bit clock input. Connected GND for DSD mode†
SCK	7	I	System clock input†
DGND	8	-	Digital ground
V_{DD}	9	-	Digital power supply, +3.3 V
$\overline{MS}$	10	I/O	Chip select for mode control‡
MDI	11	I	Mode control data input†
MC	12	I	Mode control clock input†
MDO	13	I/O	Mode control read back data output‡
$\overline{RST}$	14	I	Reset†
$V_{CC}2R$	15	-	Analog power supply (R-channel DACFF), +5.0 V
AGND3R	16	-	Analog ground (R-channel DACFF)
$I_{OUT}R+$	17	O	R-channel analog current output +
$I_{OUT}R-$	18	O	R-channel analog current output –
AGND1	19	-	Analog ground (internal bias)
I_{REF}	20	-	Output current reference bias pin
$V_{COM}R$	21	-	R-channel Internal bias de-coupling pin
$V_{COM}L$	22	-	R-channel Internal bias de-coupling pin
$V_{CC}1$	23	-	Analog power supply, +5.0 V
AGND2	24	-	Analog ground (internal bias)
$I_{OUT}L+$	25	O	L-channel analog current output +
$I_{OUT}L-$	26	O	L-channel analog current output –
AGND3L	27	-	Analog ground (L-channel DACFF)
$V_{CC}2L$	28	-	Analog power supply (L-channel DACFF), +5.0 V

† Schmitt trigger input, 5 V tolerant.
‡ Schmitt trigger input and output, 3.3 V.

PIC18LC242-I/SO (VI: IC703)

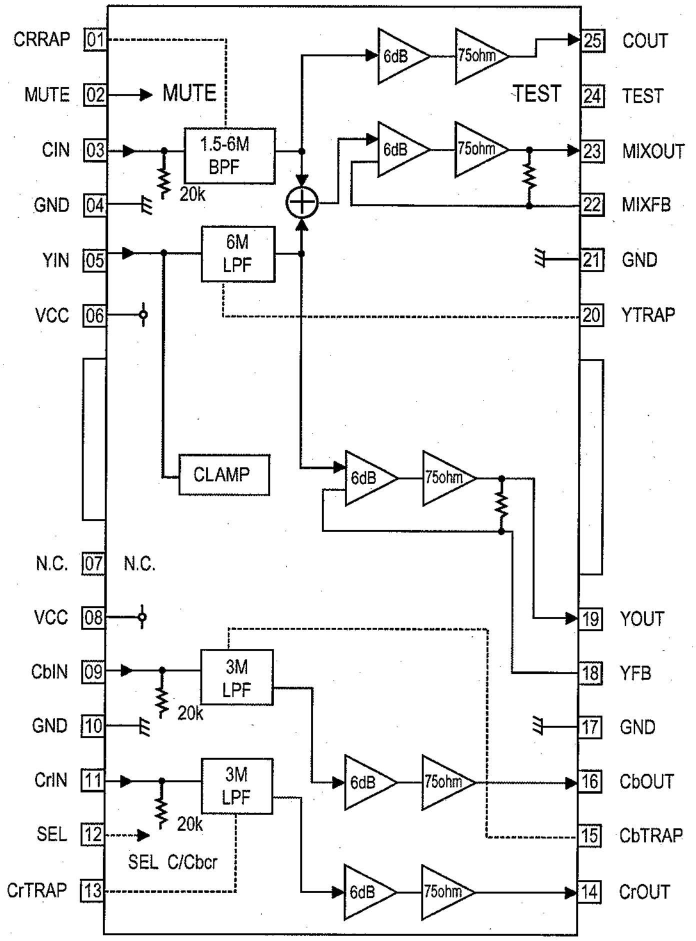

MCLR
RA0
RA1
RA2
RA3
RA4
RA5
Vss
OSC1
OSC2
RC0
RC1
RC2
RC3
TOP VIEW
RB7
RB6
RB5
RB4
RB3
RB2
RB1
INT0
VDD
Vss
RC7
RC6
RC5
RC4
1
2
3
4
5
6
7
8
9
10
11
12
13
14
28
27
26
25
24
23
22
21
20
19
18
17
16
15

PIC18LC242-I/SO Terminal Function

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{MCLR}}$	I	Master Clear (Reset) input. This pin is an active low RESET to the device.
2	RA0	I/O	Digital I/O.
3	RA1	I/O	Digital I/O.
4	RA2	I/O	Digital I/O.
5	RA3	I/O	Digital I/O.
6	RA4	I/O	Digital I/O. Open drain when configured as output.
7	RA5	I/O	Digital I/O.
8	Vss	P	Ground reference for logic and I/O pins.
9	OSC1	I	Oscillator crystal input or external clock source input. ST buffer when configured in RC mode. CMOS otherwise.
10	OSC2	O	Oscillator crystal output. Connects to crystal or resonator in Crystal Oscillator mode.
11	RC0	I/O	Digital I/O.
12	RC1	I/O	Digital I/O.
13	RC2	I/O	Digital I/O.
14	RC3	I/O	Digital I/O.
15	RC4	I/O	Digital I/O.
16	RC5	I/O	Digital I/O.
17	RC6	I/O	Digital I/O.
18	RC7	I/O	Digital I/O.
19	Vss	P	Ground reference for logic and I/O pins.
20	VDD	P	Positive supply for logic and I/O pins.
21	INT0	I	External Interrupt 0.
22	RB1	I/O	Digital I/O.
23	RB2	I/O	Digital I/O.
24	RB3	I/O	Digital I/O.
25	RB4	I/O	Digital I/O. Interrupt-on-change pin.
26	RB5	I/O	Digital I/O. Interrupt-on-change pin.
27	RB6	I/O	Digital I/O. Interrupt-on-change pin. ICSP programming clock.
28	RB7	I/O	Digital I/O. Interrupt-on-change pin. ICSP programming data.

Legend:	O=Output
	I=Input
	P=Power

BH7860FP (VI: IC706, 707) IC707 for Europe model

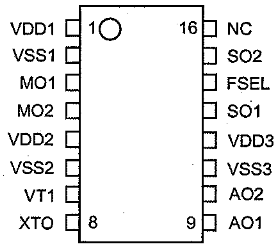

CRRAP 01
MUTE 02
MUTE
CIN 03
GND 04
20k
1.5-6M BPF
YIN 05
6M LPF
VCC 06
CLAMP
N.C. 07
N.C.
VCC 08
CbIN 09
3M LPF
20k
GND 10
CrIN 11
3M LPF
20k
SEL 12
SEL C/Cbcr
CrTRAP 13
6dB
75ohm
TEST
25 COUT
24 TEST
23 MIXOUT
22 MIXFB
21 GND
20 YTRAP
19 YOUT
18 YFB
17 GND
16 CbOUT
15 CbTRAP
14 CrOUT

Functions

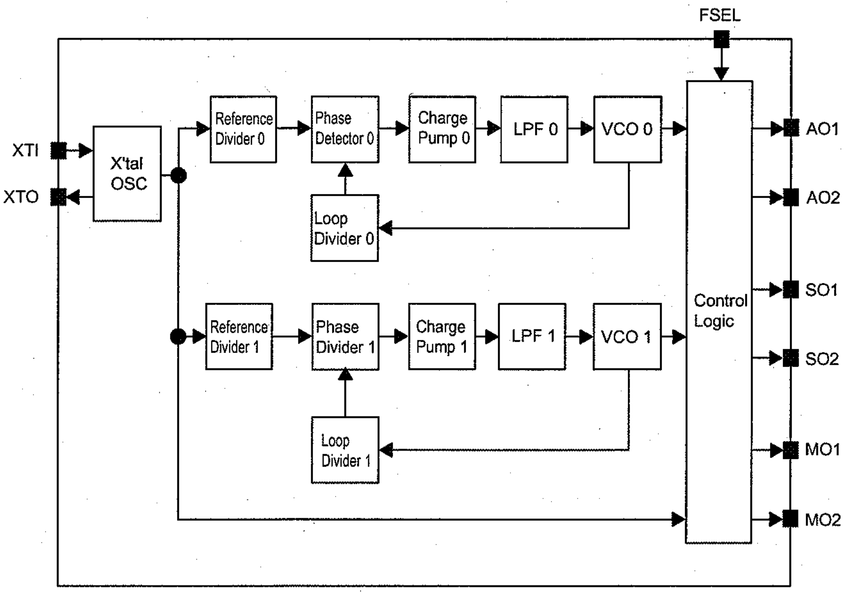
Pin No.	Pin Name	Functions
1,13,15,20	CTRAP CbTRAP CrTRAP YTRAP	LC oscilation terminal
2	MUTE	Mute control. If MUTE is set to "L", five channels will be muted simultaneously.
3,9,11	CIN CbIN CrIN	Signal input. Croma signal. Color difference signal. The bias type input terminal. Input impedance: 20kohms.
4,10,17,21	GND	It fixed to ground.
5	YIN	Siganal input. Input terminal of a luminance signal. Di clamp input .
6,8	VCC	VCC of 6 and 8 pins does not connected inside. Use it by connectin externally C, MIX and Y connect with Vcc of 6 pin. Cb and Cr connect with VCC of 8 pin.
12	SEL	C/CbCr select. Cb and Cr are turned off if SEL is set to "L".
14,16	CrOUT CbOUT	Signal outout. Color difference signal output.
18,19	YFB YOUT	Signal outout. Luminance signal output.
22,23	MIXFB MIXOUT	Signal outout. Y/C MIX signal output.
24	TEST	TEST terminal. Useally, please short-circuit with GND.
25	COUT	Signal output. Chroma output terminal.

SM8707EV (MA: IC105)

Top View


VDD1
VSS1
MO1
MO2
VDD2
VSS2
VT1
XTO
1
8
16
9
NC
SO2
FSEL
SO1
VDD3
VSS3
AO2
AO1

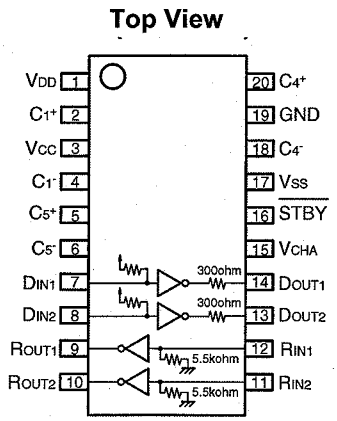
Block Diagram


FSEL
XTI
XTO
X'tal OSC
Reference Divider 0
Phase Detector 0
Charge Pump 0
LPF 0
VCO 0
Loop Divider 0
Reference Divider 1
Phase Divider 1
Charge Pump 1
LPF 1
VCO 1
Loop Divider 1
Control Logic
AO1
AO2
SO1
SO2
MO1
MO2

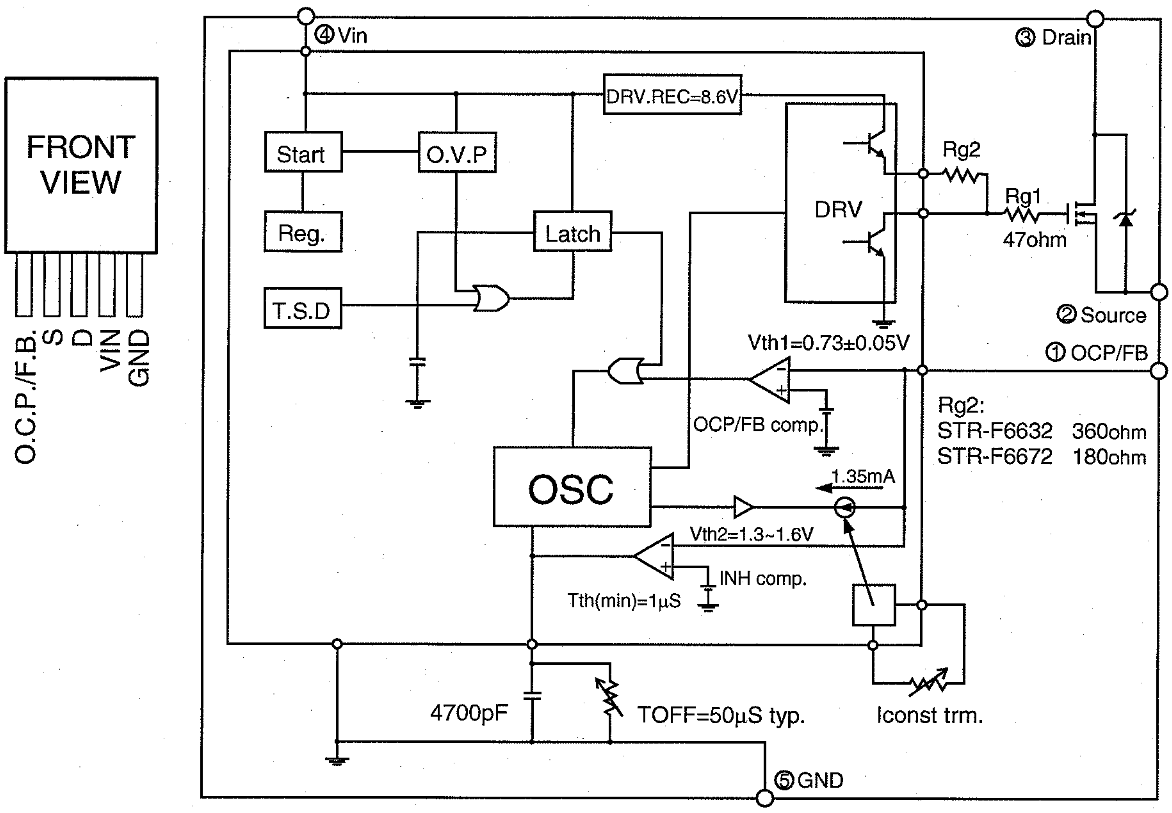
Functions

Number	Name	I/O	Description
1	VDD1	-	Supply 1 for digital block
2	VSS1	-	Ground 1 for digital block
3	MO1	O	Video system output 1 (27MHz fixed)
4	MO2	O	Video system output 2 (27MHz fixed)
5	VDD2	-	Supply 2 for analog block
6	VSS2	-	Ground 2 for analog block
7	XTI	I	Crystal oscillator connection or external clock input
8	XTO	O	Crystal oscillator connection
9	AO1	O	<SM8707D> Audio system output 1 (384fs/768fs output) FSEL = LOW, fs = 48kHz: 768fs FSEL = HIGH, fs = 44.1kHz: 384fs <SM8707E> Audio system output 1 (512fs output)
10	AO2	O	Audio system output 1 (512fs output)
11	VSS3	-	Ground 3 for digital block
12	VDD3	-	Supply 1 for digital block
13	SO1	O	<SM8707D> Signal processor system output 1 (16.9344MHz fixed) <SM8707E> Signal processor system output 1 (33.8688MHz fixed)
14	FSEL	I	<SM8707D> Sampling frequency select FSEL = LOW : fs = 48kHz FSEL = HIGH : fs = 44.1kHz (with internal pull-up resistor, Schmitt-trigger input) <SM8707E> Sampling frequency select FSEL = LOW : fs = 48kHz FSEL = HIGH : fs = 44.1kHz (with internal pull-up resistor, Schmitt-trigger input)
15	SO2	O	Signal processor system output 2 (33.8688MHz fixed)
16	NC	-	No connection (leave pin open circuit or connect to VDD)

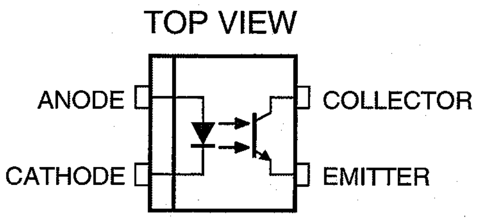
µPD4721GS (PD: IC511)


Top View
VDD 1
C1+ 2
VCC 3
C1- 4
C5+ 5
C5- 6
DIN1 7
DIN2 8
ROUT1 9
ROUT2 10
20 C4+
19 GND
18 C4-
17 VSS
16 STBY
15 VCHA
14 DOUT1
13 DOUT2
12 RIN1
11 RIN2
300ohm
300ohm
5.5kohm
5.5kohm

STR-F6674 (PD: IC901)

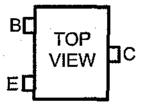

FRONT VIEW
O.C.P./F.B.
S
D
VIN
GND
④Vin
③ Drain
DRV.REC=8.6V
Start
O.V.P
Reg.
Latch
T.S.D
DRV
Rg2
Rg1
47ohm
② Source
① OCP/FB
Vth1=0.73±0.05V
OCP/FB comp.
Rg2:
STR-F6632 360ohm
STR-F6672 180ohm
OSC
1.35mA
Vth2=1.3~1.6V
INH comp.
Tth(min)=1µS
4700pF
TOFF=50µS typ.
Iconst trm.
⑤GND

PC123 (PD: IC902)

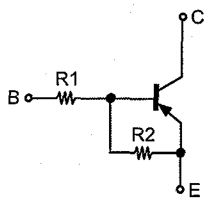

TOP VIEW
ANODE
CATHODE
COLLECTOR
EMITTER

2. TRANSISTORS

DTA114EK
DTA124EK
DTC114EK

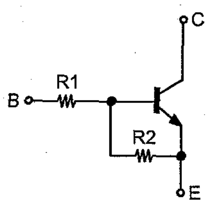

B
TOP VIEW
C
E

DTA114EK
DTA124EK



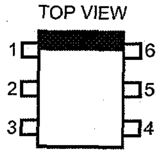
	R1	R2
DTA114EK	10kohm	10kohm
DTA124EK	22kohm	22kohm

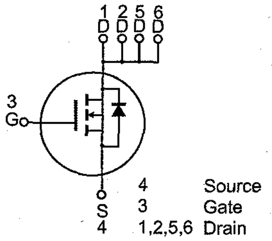
DTC114EK



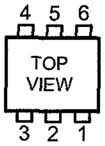
	R1	R2
DTC114EK	10kohm	10kohm

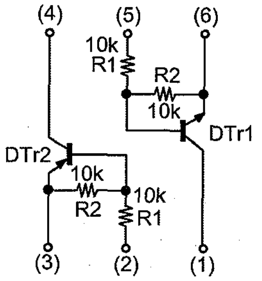
HAT2053M


TOP VIEW
1
2
3
6
5
4


1 2 5 6
D D D D
3
G
S
4
4 Source
3 Gate
1,2,5,6 Drain

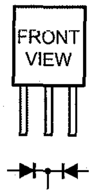
IMD3A


4 5 6
TOP VIEW
3 2 1

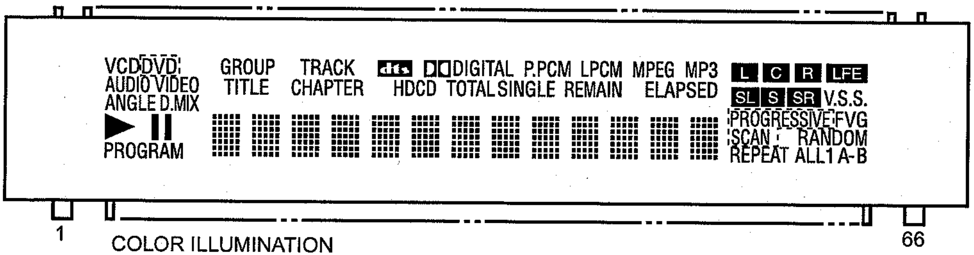

(4)
(5)
(6)
10k
R1
R2
10k
DTr1
DTr2
10k
R2
10k
R1
(3)
(2)
(1)

3. DIODE

FMB-2204



4. FL DISPLAY 17-ST-04GNK (FL101)


VCD DVD
AUDIO VIDEO
ANGLE D.MIX
PROGRAM
GROUP TRACK
TITLE CHAPTER
dts DIGITAL P.PCM LPCM MPEG MP3
HDCD TOTAL SINGLE REMAIN ELAPSED
L C R LFE
SL S SR V.S.S.
PROGRESSIVE FVG
SCAN RANDOM
REPEAT ALL1 A-B
1
66

COLOR ILLUMINATION
Reddish Orange ----- Above pattern ┆┄┆ part
Green ------------------ Other

PIN CONNECTION

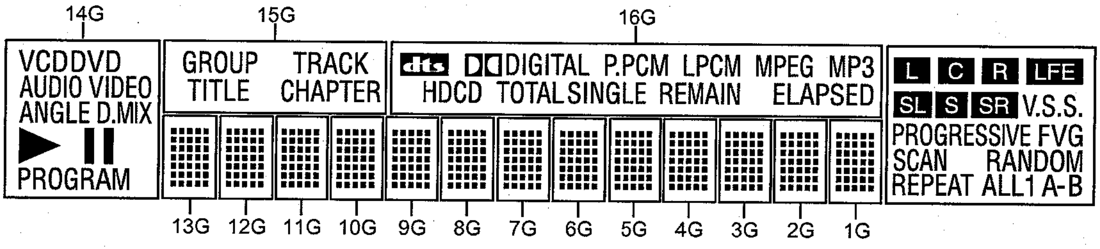
PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
CONNECTION	F-	NX	NP	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21

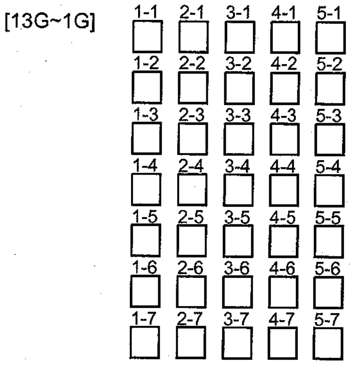
PIN NO.	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CONNECTION	P22	P23	P24	P25	P26	P27	P28	P29	P30	P31	P32	P33	P34	P35	NC	NC	NC	NC	NC	NC	17G	16G	15G	14G	13G

PIN NO.	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
CONNECTION	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NX	F+

NOTE 1) F-,F+ ---------- Filament
2) NP ------------ No pin
3) NX ------------ No extend pin
4) DL ----------- Datum line
5) 1G~17G ----- Grid
6) Visual Field -- Upper 22.6 min.
7) NC ----------- No connection
(NC pin should be electorically open on the PC board)

GRID ASSIGNMENT


14G
15G
16G
VCD DVD
AUDIO VIDEO
ANGLE D.MIX
PROGRAM
GROUP TRACK
TITLE CHAPTER
dts DIGITAL P.PCM LPCM MPEG MP3
HDCD TOTAL SINGLE REMAIN ELAPSED
L C R LFE
SL S SR V.S.S.
PROGRESSIVE FVG
SCAN RANDOM
REPEAT ALL1 A-B
13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G


[13G~1G]
1-1 2-1 3-1 4-1 5-1
1-2 2-2 3-2 4-2 5-2
1-3 2-3 3-3 4-3 5-3
1-4 2-4 3-4 4-4 5-4
1-5 2-5 3-5 4-5 5-5
1-6 2-6 3-6 4-6 5-6
1-7 2-7 3-7 4-7 5-7

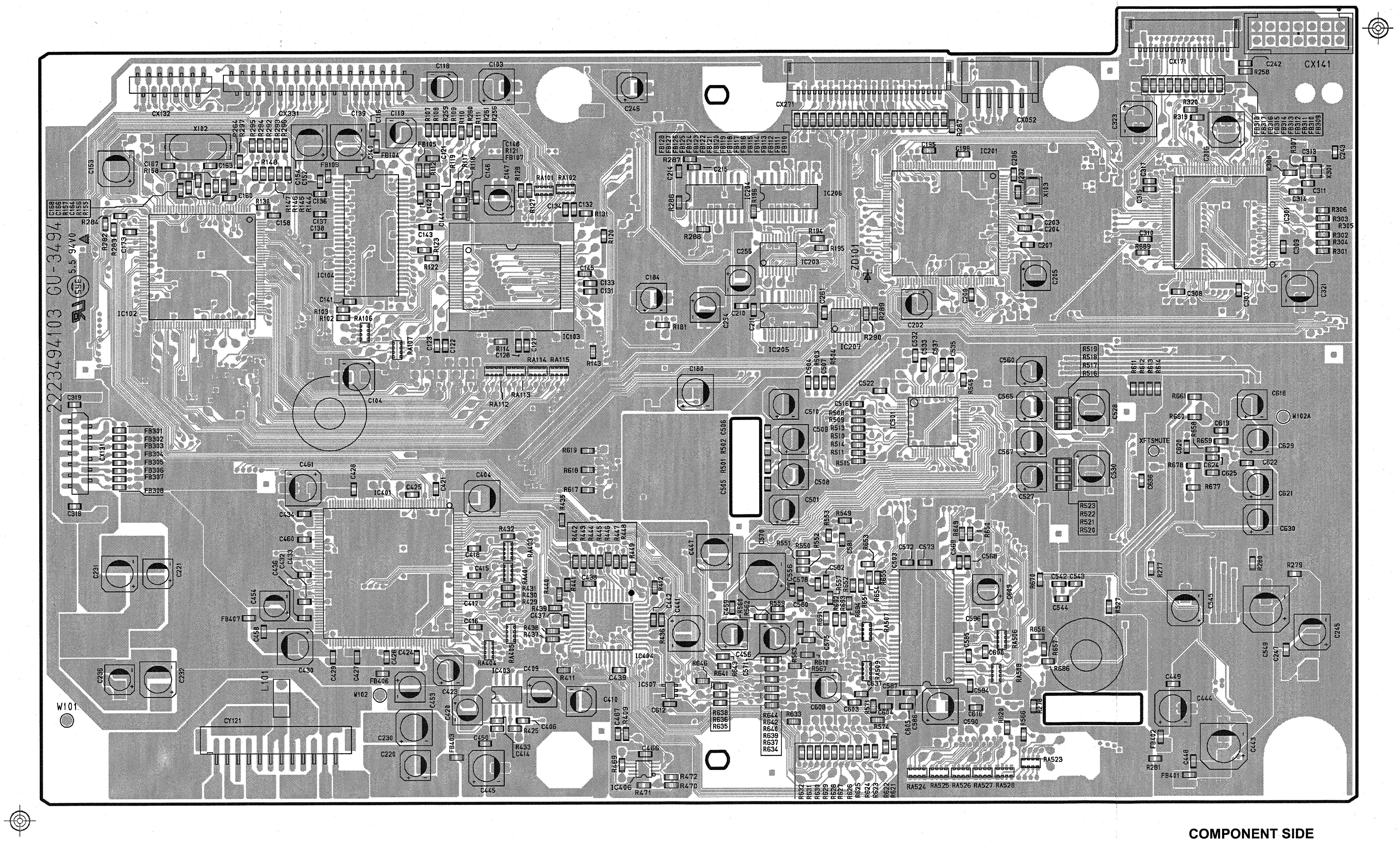
ANODE CONNECTION

	17G	16G	15G	14G	13G~1G
P1	SL	REMAIN	TITLE	PROGRAM	1-1
P2	S	ELAPSED	CHAPTER	V	2-1
P3	SR	SINGLE	TRACK	CD	3-1
P4	L	HDCD	GROUP	DVD	4-1
P5	C	TOTAL	—	AUDIO	5-1
P6	R	dts	—	VIDEO	1-2
P7	LFE	MP3	—	ANGLE	2-2
P8	PROGRESSIVE SCAN	MPEG	—	▶	3-2
P9	V.S.S.	LPCM	—	❚❚	4-2
P10	REPEAT	P.PCM	—	D.MIX	5-2
P11	ALL	DD DIGITAL	—	—	1-3
P12	1	—	—	—	2-3
P13	A-	—	—	—	3-3
P14	B	—	—	—	4-3
P15	RANDOM	—	—	—	5-3
P16	—	—	—	—	1-4
P17	F	—	—	—	2-4
P18	V	—	—	—	3-4

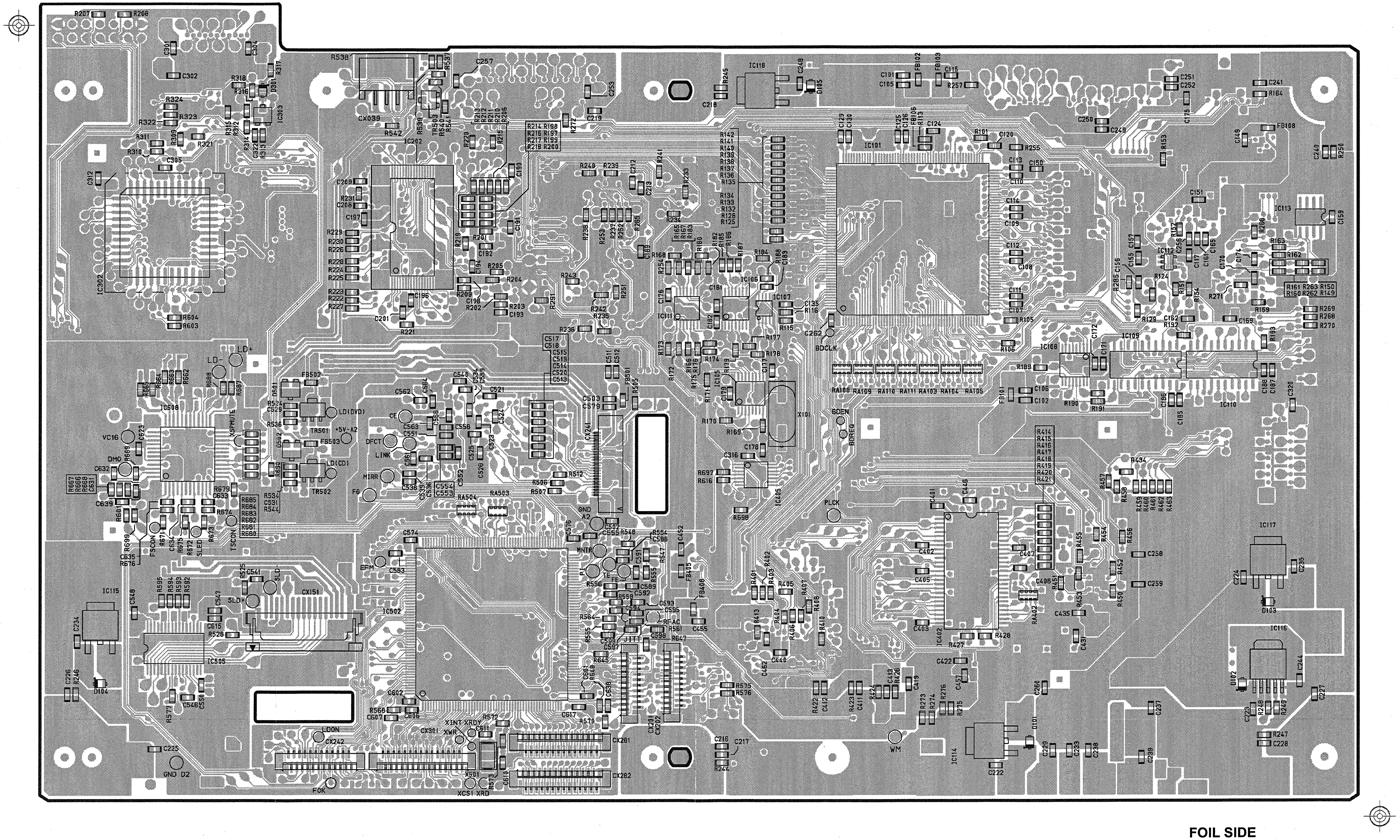
	17G	16G	15G	14G	13G~1G
P19	G	—	—	—	4-4
P20	—	—	—	—	5-4
P21	—	—	—	—	1-5
P22	—	—	—	—	2-5
P23	—	—	—	—	3-5
P24	—	—	—	—	4-5
P25	—	—	—	—	5-5
P26	—	—	—	—	1-6
P27	—	—	—	—	2-6
P28	—	—	—	—	3-6
P29	—	—	—	—	4-6
P30	—	—	—	—	5-6
P31	—	—	—	—	1-7
P32	—	—	—	—	2-7
P33	—	—	—	—	3-7
P34	—	—	—	—	4-7
P35	—	—	—	—	5-7

PRINTED WIRING BOARD

GU-3494 MAIN P.W.B. UNIT

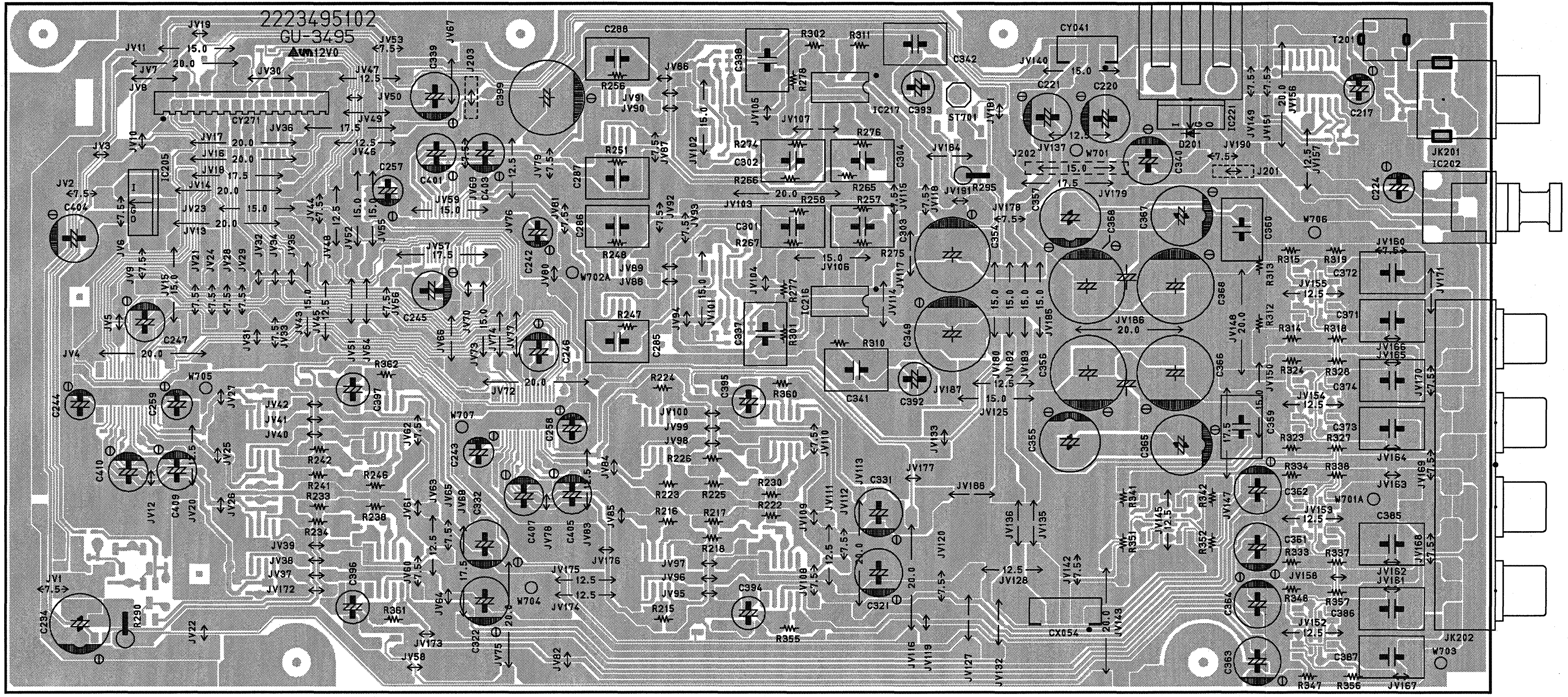

2223494103 GU-3494
5.5 94V0
CX132
CX331
CX271
CX052
CX171
CX141
CX131
CY121
IC102
IC104
IC103
IC205
IC206
IC203
IC207
IC201
IC301
IC401
IC404
IC403
IC406
IC507
L101
W101
W102
W102A
XFTSMUTE
X102
X103
X301
ZD101

COMPONENT SIDE

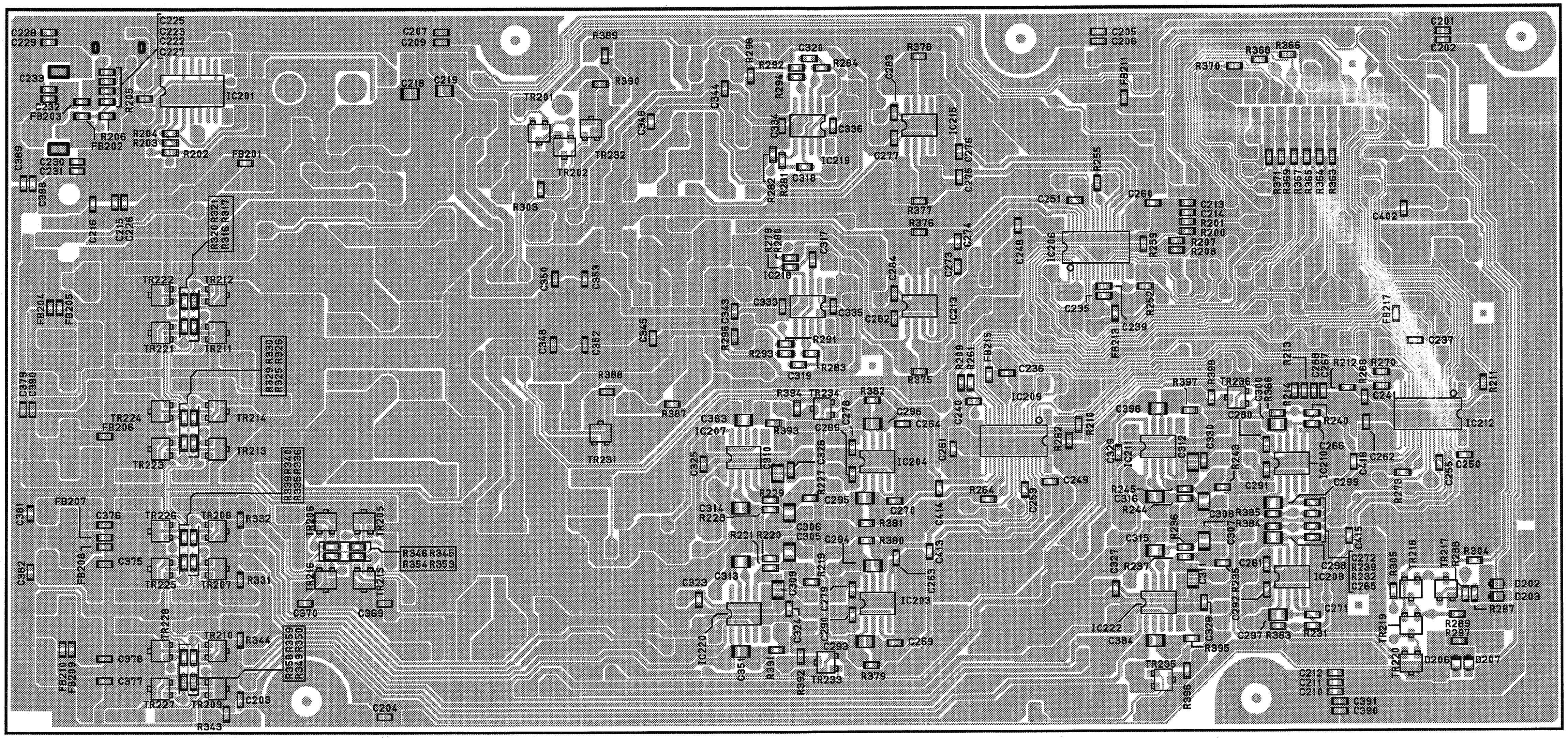

IC101
IC302
IC202
IC118
IC502
IC505
IC115
IC116
IC117
IC114
X101
CX281
CX282
CX242
CX151
GND D2
FOK
WM
PLCK
BDCLK

FOIL SIDE

GU-3495 AUDIO P.W.B. UNIT

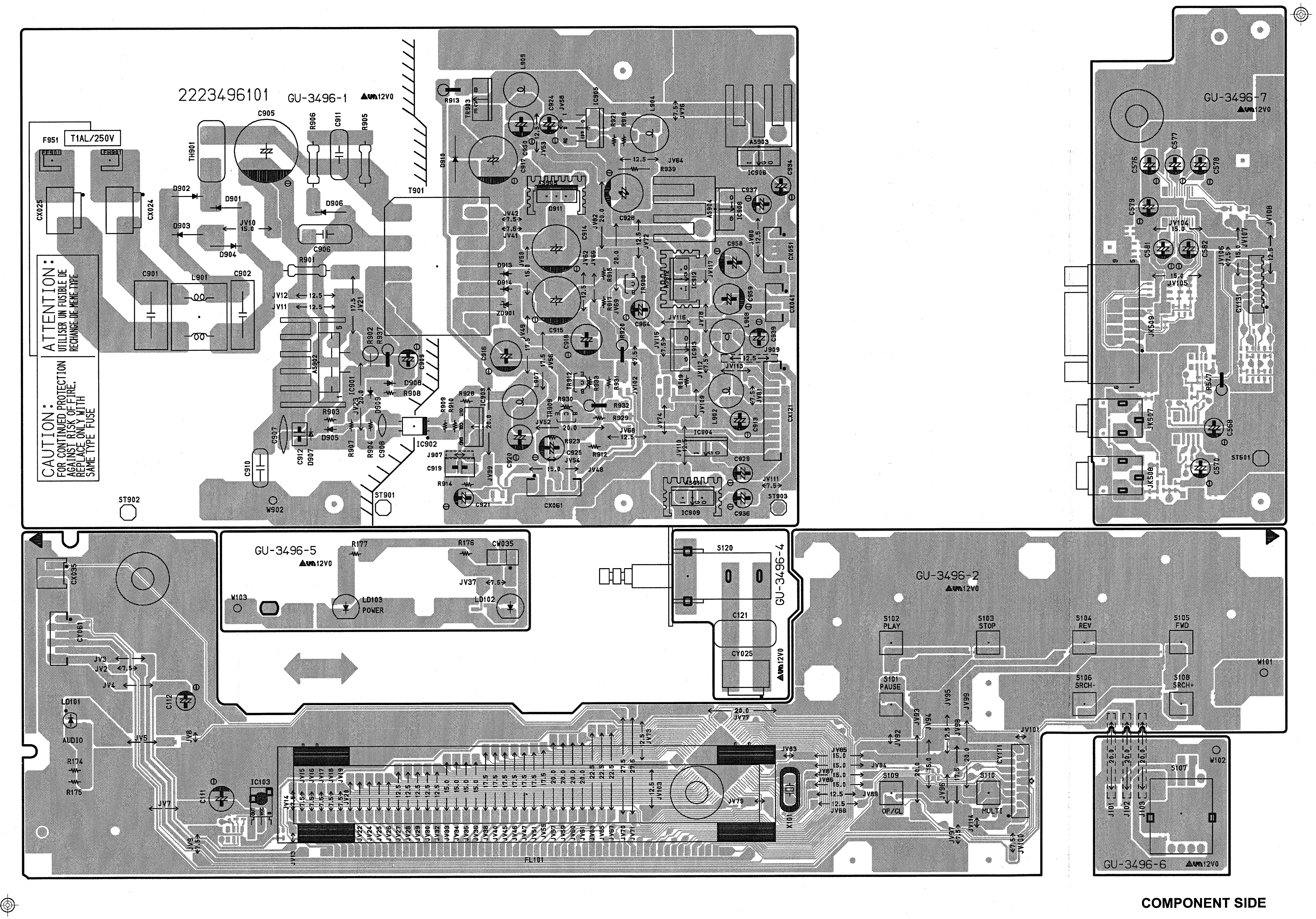

2223495102
GU-3495
12V0
JV19
JV11
JV7
JV8
JV30
JV53
JV47
JV50
JV49
JV67
J203
C339
C399
C288
R256
JV86
JV91
JV90
C398
R302
R278
R311
C342
IC217
C393
ST701
JV181
CY041
JV140
C221
C220
IC221
D201
JV149
JV151
JV156
JV190
J201
T201
C217
JK201
IC202
C224
JV3
JV10
IC205
CY271
JV17
JV16
JV18
JV14
JV23
JV13
JV36
JV46
C257
C401
C403
JV69
JV79
JV59
JV2
C404
JV6
JV9
JV15
JV21
JV24
JV28
JV29
JV32
JV34
JV35
JV44
JV48
JV52
JV55
JV57
JV76
JV61
C287
C286
R251
JV87
JV102
R274
C302
R266
JV103
R276
C304
R265
R258
R257
C301
R267
JV184
JV191
R295
J202
JV137
W701
JV179
C340
C357
C358
C367
C360
W706
JV176
JV118
JV115
C303
R275
JV106
C354
JV5
C247
JV4
C242
W702A
C245
JV66
JV70
JV73
JV74
JV77
JV80
R248
JV89
JV88
R247
C285
JV92
JV93
JV94
JV101
JV104
C397
R301
R277
IC216
R310
C341
C349
JV114
JV117
JV187
C392
JV180
JV182
JV183
JV185
JV125
C356
JV186
C368
R313
R312
R315
R319
C372
JV160
JV155
JV171
JV148
R314
R318
C371
JV166
JV165
C366
JV150
R324
R326
C374
JV170
JV154
JV31
JV33
JV43
JV45
JV51
JV54
R362
C244
C259
JV27
W705
JV42
JV41
JV40
C397
W707
JV62
C243
C258
JV72
R224
C395
R360
JV100
JV99
JV98
R226
JV110
JV133
JV177
C355
C365
C359
R323
R327
C373
JV164
JV169
C410
C409
JV20
JV12
JV25
JV26
R242
R241
R233
R234
R246
R238
JV61
JV63
JV65
JV68
C332
C407
JV78
C405
JV83
JV84
JV85
R223
R225
R230
R222
R216
R217
R218
JV111
JV112
JV113
C331
JV188
JV136
JV135
R341
R351
JV145
R342
R352
JV147
C362
R334
R338
W701A
JV163
C385
C361
R339
R337
JV168
JV39
JV38
JV37
JV172
C396
JV60
JV64
C322
W704
JV175
JV174
JV97
JV96
JV95
R215
C394
R355
JV109
JV108
C321
JV120
JV128
JV142
JV143
CX054
JV158
JV162
JV161
R348
R357
C386
C364
JV152
JK202
JV1
C234
R290
JV22
R361
JV173
JV58
JV75
JV82
JV116
JV119
JV127
JV132
C363
R347
R356
C387
JV167
W703
15.0
20.0
17.5
12.5
<7.5>

COMPONENT SIDE

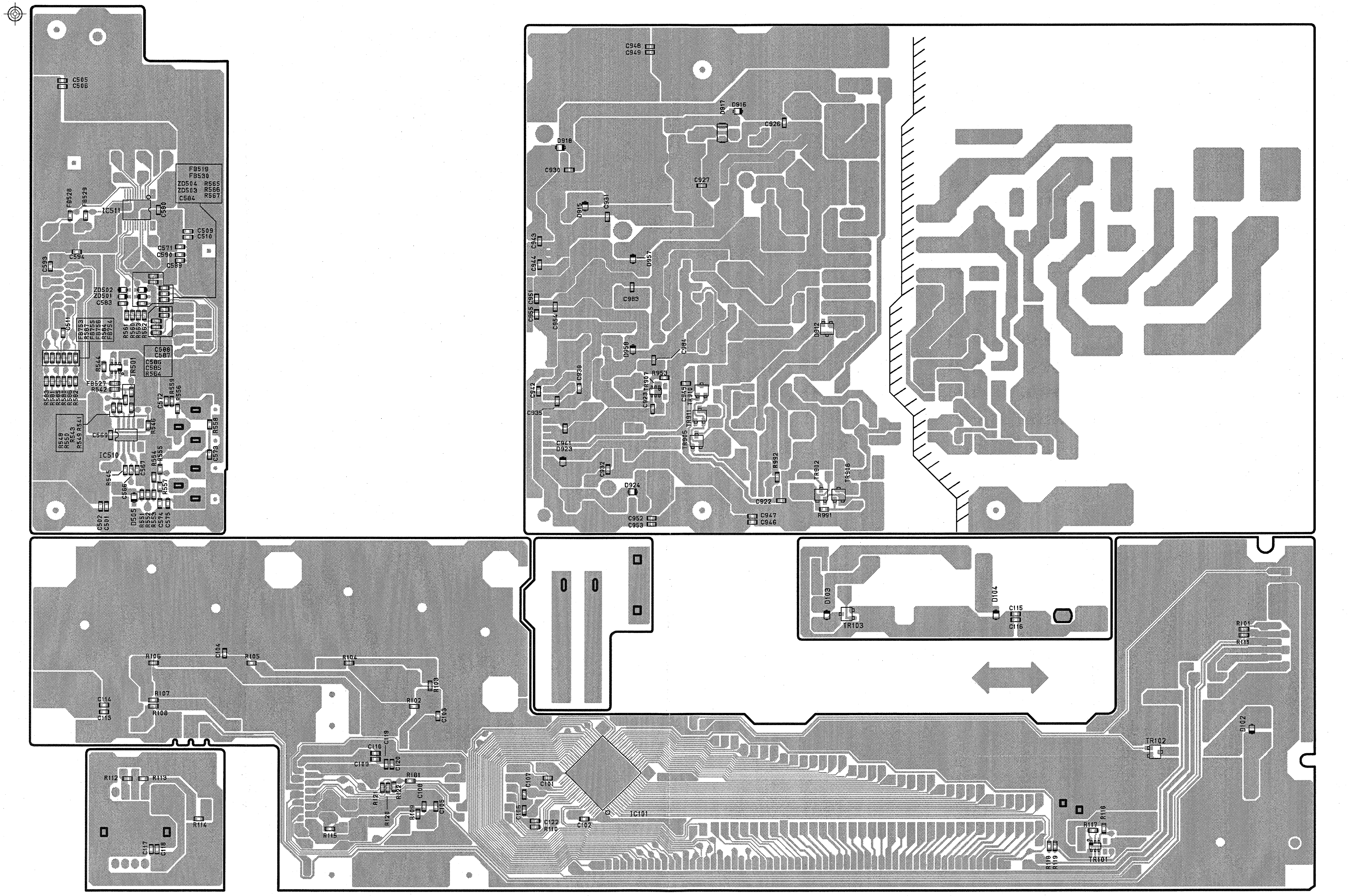

IC201
IC219
IC216
IC218
IC206
IC213
IC209
IC212
IC207
IC204
IC210
IC208
IC203
IC220
IC222
TR201
TR202
TR232
TR231
TR222
TR212
TR221
TR211
TR224
TR214
TR213
TR223
TR226
TR208
TR225
TR207
TR206
TR205
TR216
TR215
TR228
TR210
TR227
TR209
TR234
TR233
TR236
TR235
TR218
TR217
TR219
TR220

FOIL SIDE

GU-3496 POWER/DISPLAY P.W.B. UNIT

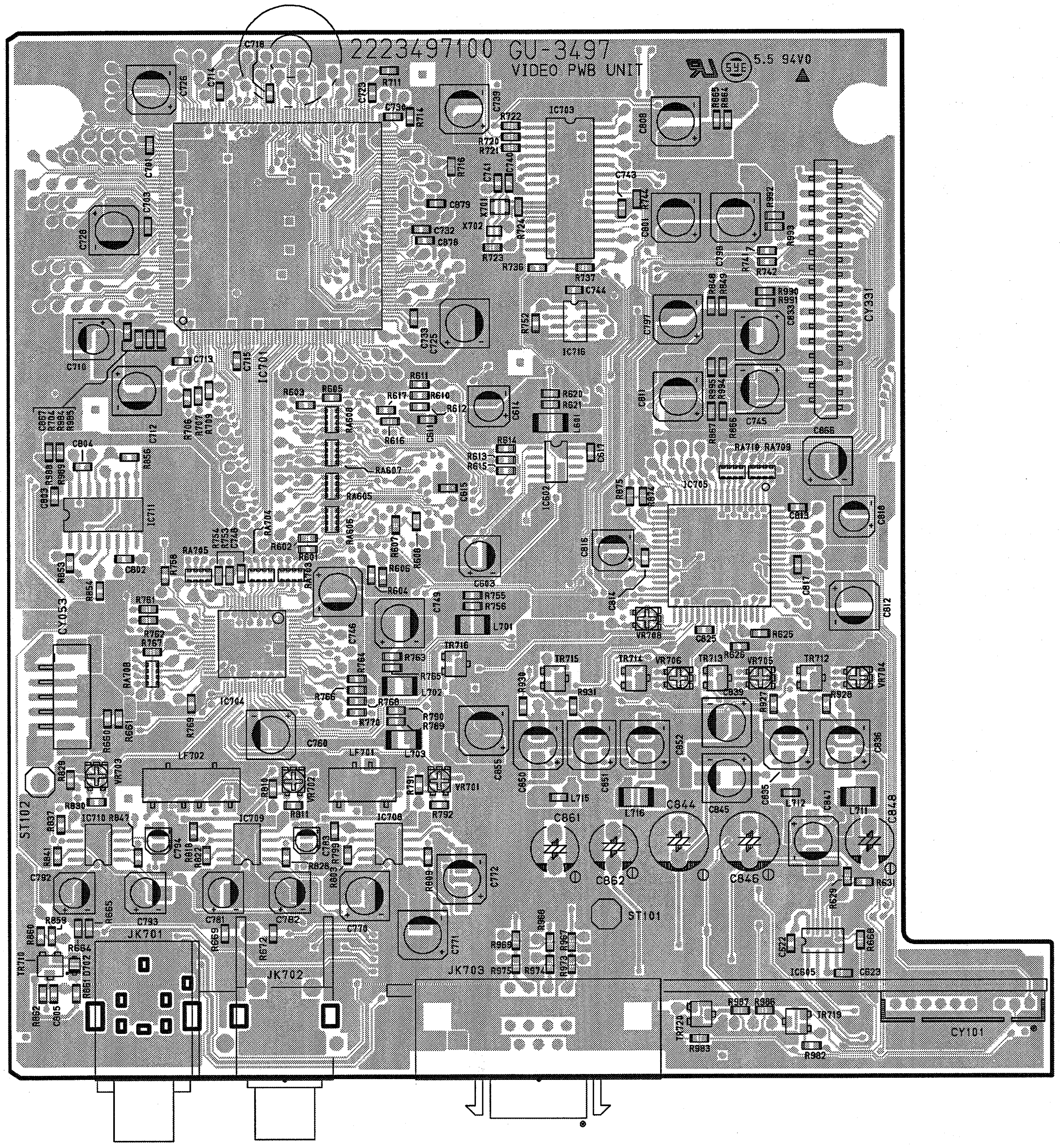

2223496101
GU-3496-1
GU-3496-2
GU-3496-4
GU-3496-5
GU-3496-6
GU-3496-7
F951
T1AL/250V
CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE
T901
IC902
C905
ST901
ST902
ST903
W902
CX061
LD103 POWER
LD102
LD101 AUDIO
S120
C121
CY025
S102 PLAY
S103 STOP
S104 REV
S105 FWD
S101 PAUSE
S106 SRCH-
S108 SRCH+
S109 OP/CL
S110 MULTI
S107
W101
W102
FL101
X101
IC103
JK507
JK508
JK509
ST601

COMPONENT SIDE

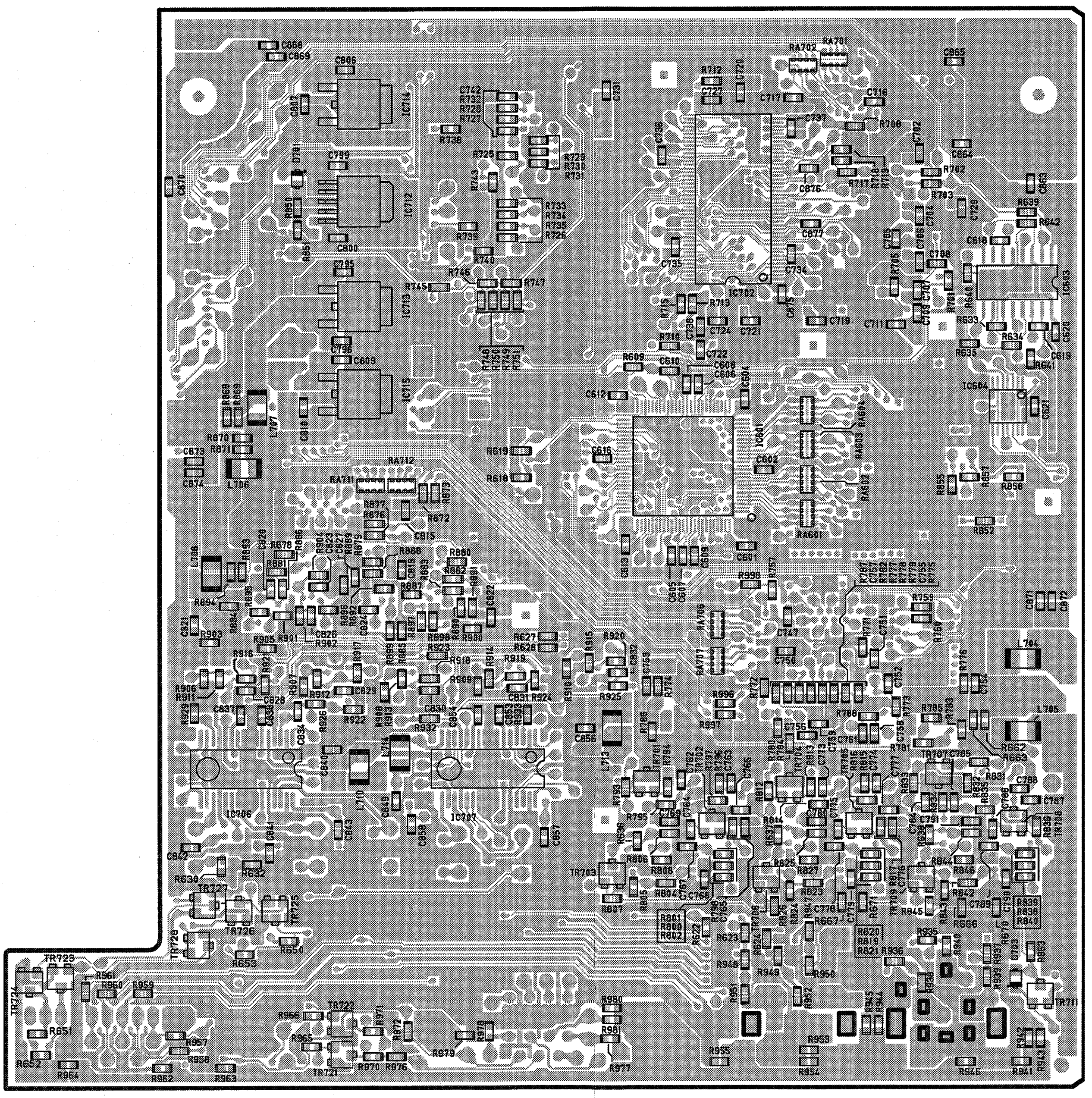

C505
C506
FB519
FB530
ZD504
ZD503
C584
R565
R566
R567
FB528
FB529
IC511
C509
C510
C571
C590
C589
C593
C594
ZD502
ZD501
C583
C511
R561
FB753
FB755
FB756
FB754
C586
C587
C588
C585
R564
R544
R501
FB527
R542
R559
R556
C512
R548
R550
R543
R549
R541
C569
R546
IC510
R545
R554
R555
C568
R557
C592
C501
D505
R551
R552
R553
C574
C575
C948
C949
D917
D916
C926
D918
C930
C927
D915
C931
C943
C944
D957
C983
C951
C955
C954
D959
C984
D912
C938
C953
C942
C935
C945
TR910
TR911
TR905
C941
D923
C932
D924
R992
TR912
TR906
C922
C947
C946
C952
C953
R991
D103
TR103
D104
C115
C116
R101
R111
R106
C104
R105
R104
R103
R107
R108
R102
C103
C114
C113
C110
C119
C109
C120
R101
R122
R121
R120
C108
R109
C105
R112
R113
R114
C117
C118
R115
C107
C101
C106
C122
R110
C102
IC101
R116
R117
R118
R119
TR101
TR102
D102

FOIL SIDE

GU-3497 VIDEO P.W.B. UNIT

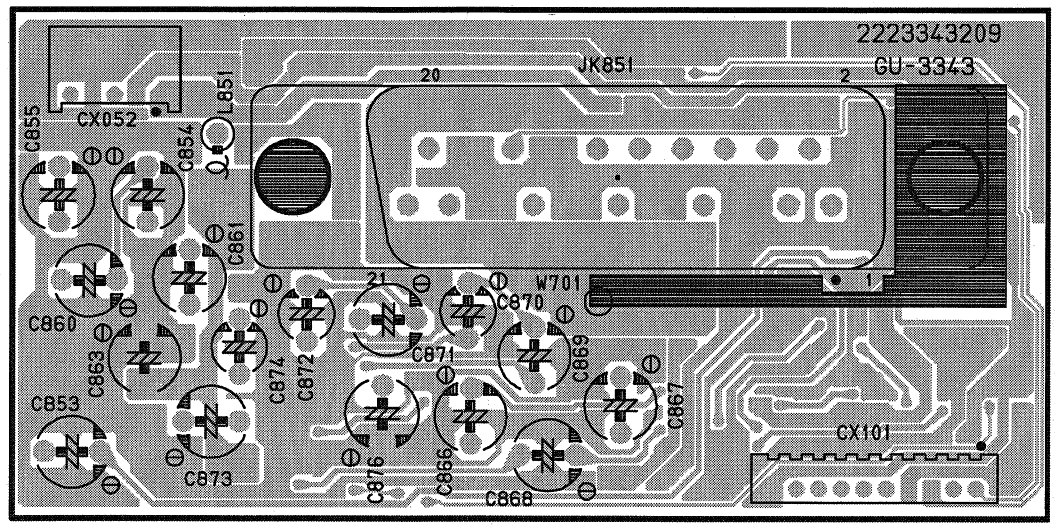

2223497100 GU-3497
VIDEO PWB UNIT
5.5 94V0
JK701
JK702
JK703
CY101
CY331
ST101
ST102

COMPONENT SIDE

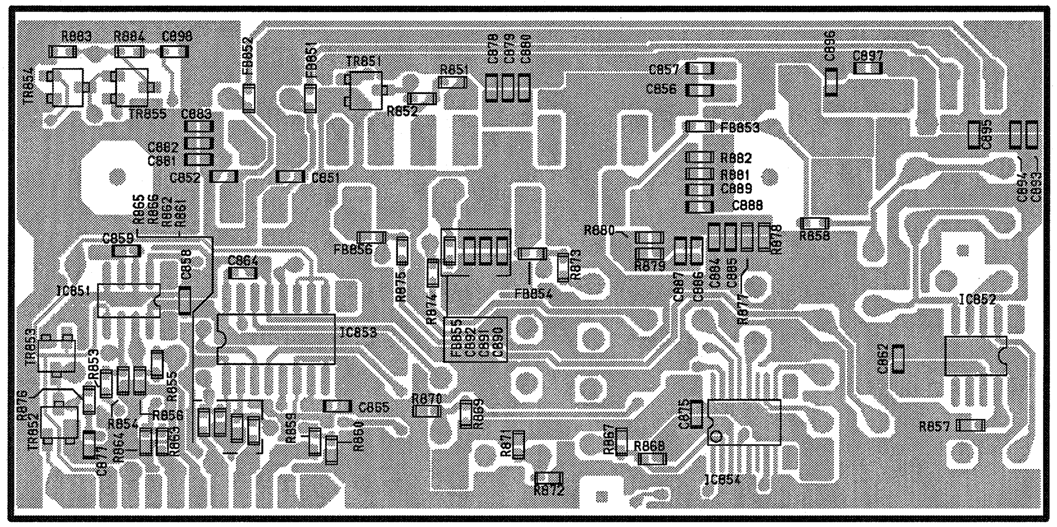


FOIL SIDE

GU-3343 SCART P.W.B. UNIT (Europe model only)


2223343209
GU-3343
JK851
20
2
21
1
CX052
L851
C855
C854
C861
C860
C863
C853
C873
C874
C872
W701
C870
C871
C869
C867
C876
C866
C868
CX101

COMPONENT SIDE


R883
R884
C898
TR854
TR855
C883
C882
C881
C852
C851
FB852
FB851
TR851
R851
R852
C878
C879
C880
C857
C856
FB853
R882
R881
C889
C888
C896
C897
C895
C894
C893
R865
R866
R862
R861
C859
C858
C864
IC851
IC853
FB856
R875
R874
FB855
C892
C891
C890
R873
FB854
R880
R879
C887
C886
C884
C885
R877
R878
R858
IC852
C862
TR853
R853
R876
TR852
C877
R854
R855
R856
R864
R863
R859
R860
C865
R870
R869
R871
R872
R867
R868
C875
IC854
R857

FOIL SIDE

NOTE FOR PARTS LIST

- Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film Resister ±5%, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)
- Not including Carbon Chip Resister 1/16W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR
Type / Shape and performance / Power / Resistance / Allowable error / Others

RD : Carbon	2B : 1/8W	F : ±1%	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : ±2%	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : ±5%	NB : Non-burning type
RW : Winding	3A : 1W	K : ±10%	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : ±20%	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

✻ Resistance

1 8 2 ⇒ 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.
- Units: ohm

1 R 2 ⇒ 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.
- Units: ohm

● Capacitors

Ex.: CE 04W 1H 2R2 M BP
Type / Shape and performance / Dielectric strength / Capacity / Allowable error / Others

CE : Aluminum foil electrolytic	0J : 6.3V	F : ±1%	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : ±2%	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : ±5%	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : ±10%	DL : For change and discharge
CK : Ceramic	1V : 35V	M : ±20%	HF : For assuring high requency
CC : Ceramic	1H : 50V	Z : +80% −20%	U : UL part
CP : Oil	2A : 100V		C : CSA part
CM : Mica	2B : 125V	P : +100% −0%	W : UL-CSA type
CF : Metallized	2C : 160V		F : Lead wire forming
CH : Metallized	2D : 200V	C : ±0.25pF	
	2E : 250V	D : ±0.5pF	
	2H : 500V	= : Others	
	2J : 630V		

✻ Capacity (electrolyte only)

2 2 2 ⇒ 2200μF
Indicates number of zeros after effective number.
2-digit effective number.
- Units: μF.

2 R 2 ⇒ 2.2μF
1-digit effective number.
2-digit effective number, decimal point indicated by R.
- Units: μF.

✻ Capacity (except electrolyte)

2 2 2 ⇒ 2200pF=0.0022μF
(More than 2)— Indicates number of zeros after effective number.
2-digit effective number.
- Units: pF.

2 2 1 ⇒ 220pF
(0 or 1)— Indicates number of zeros after effective number.
2-digit effective number.
- Units: pF.

- When the dielectric strength is indicated in AC, "AC" is included after the dieelectric strength value.

部品表について

1．◎印の部品は常時在庫していませんので供給に長時間を要することがあります。
場合によっては、供給をお断りすることがあります。
2．部品を発注する際は特に数字の“1”と英字の“I”との区別をはっきり記入してください。
3．部品番号を表示していない部品は供給できません。
4．⚠ 印の部品は安全上重要な部品です。交換するときは、安全および性能維持のため必ず指定の部品をご使用ください。
5．★印のついている部品は分解図中には記載していません。
6．カーボン抵抗器±5%、1/4W 型は記載していません。定数は回路図を参照願います。
7．カーボンチップ抵抗器 1/16W 型は記載していません。定数は回路図を参照願います。
8．部品表の抵抗器、コンデンサの品名記号の読み方は表を参照してください。

●抵抗器

例） RN 14K 2E 182 G FR
種類 / 形状特性 / 電力 / 抵抗値 / 許容差 / その他

RD ： カーボン	2B ： 1/8 W	F ： ±1%	P ： 耐パルス形
RC ： 固定体	2E ： 1/4 W	G ： ±2%	NL ： 低雑音形
RS ： 金属系皮膜	2H ： 1/2 W	J ： ±5%	NB ： 不燃形
RW ： 巻線	3A ： 1 W	K ： ±10%	FR ： ヒューズ抵抗
RN ： 金属皮膜	3D ： 2 W	M ： ±20%	F ： リード線成形
RK ： 金属混合体	3F ： 3 W		
	3H ： 5 W		

＊抵抗値

18 2 ⇨ 1800Ω=1.8kΩ
有効数字につづく 0 の数を表わす。
2 桁の有効数字を表わす。

1R 2 ⇨ 1.2Ω
1 桁の有効数字を表わす。
2 桁の有効数字で小数点は R で表わす。
：単位はΩ

●コンデンサ

例） CE 04W 1H 2R2 M BP
種類 / 形状特性 / 耐圧 / 容量 / 許容差 / その他

CE ： アルミ箔電解	0J ： 6.3 V	F ： ±1%	HS ： 高安定形
CA ： アルミ固体電解	1A ： 10 V	G ： ±2%	BP ： 無極性形
CS ： タンタル電解	1C ： 16 V	J ： ±5%	HR ： 耐リップル形
CQ ： フィルム	1E ： 25 V	K ： ±10%	DL ： 充放電対策用
CK ： セラミック	1V ： 35 V	M ： ±20%	HF ： 高周波保証用
CC ： セラミック	1H ： 50 V	Z ： +80% −20%	U ： UL 部品
CP ： オイル	2A ： 100 V		C ： CSA 部品
CM ： マイカ	2B ： 125 V	P ： +100% − 0%	W ： UL-CSA 部品
CF ： メタライズド	2C ： 160 V		F ： リード線成形
CH ： メタライズド	2D ： 200 V	C ： ±0.25pF	
	2E ： 250 V	D ： ±0.5pF	
	2H ： 500 V	= ： その他	
	2J ： 630 V		

＊容量値

● 電解コンデンサの場合

22 2 ⇨ 2200μF
有効数字につづく 0 の数を表わす。
2 桁の有効数字を表わす。
：単位はμF

2R 2 ⇨ 2.2μF
1 桁の有効数字を表わす。
2 桁の有効数字で小数点は R で表わす。
：単位はμF

● 電解コンデンサ以外の場合

22 2 ⇨ 2200pF=0.0022μF
有効数字につづく 0 の数を表わす。
(0 の数が 2 以上の場合)
2 桁の有効数字を表わす。
：単位はpF

22 1 ⇨ 220pF
有効数字につづく 0 の数を表わす。
(0 の数が 0 または 1 の場合)
2 桁の有効数字を表わす。
：単位はpF

● 耐圧を交流で表示する場合は、耐圧表示の次に「AC」を表示します。

PARTS LIST OF P.W.B. UNIT ASS'Y

Note : The symbols in the column "Remarks" indicate the following destinations.
E3 : U.S.A. & Canada model
E2 : Europe model
JP : Japan model

GU-3494 MAIN UNIT

	Ref. No.	Part No.	Part Name	Remarks		New
	SEMICONDUCTORS GROUP					
	IC101	262 3257 005	M65776BFP			*
	IC102	262 3215 005	M32102S6FP			*
	IC103	GEN 6237	ROM SUB ASS'Y(MIT)	MX29LV160BTC-90		*
	IC104	262 3119 004	W986416DH-7			
	IC105	262 3216 907	SM8707EV			*
	IC106	262 2518 907	SN74LV74APW-EL2			
	IC107	262 3046 902	TC7WH157FU			
	IC108	262 2514 901	SN74LV138APW-EL2			
	IC109	262 2778 909	SN74LV273ANS			
	IC112	262 1738 908	TC7SU04F (TAPE)			
	IC113	262 3053 908	S-24C02BFJ-TB			
	IC114	263 1079 903	BA033FP			
	IC115	262 2977 904	BA18BC0FP-E2			
	IC116	263 1110 901	PQ070XZ01ZP			
	IC117	263 1079 903	BA033FP			
	IC118	262 2977 904	BA18BC0FP-E2			
	IC201	262 3121 005	ADSPMEL322			
	IC202	GEN 6243	BASS M.ROM SUB ASS'Y	AT49LV002-70TC		*
	IC203	262 2959 906	SN74LV244APW			
	IC204-206	262 3129 900	TC74VHC157AF-EL			
	IC207	262 3198 902	TC74VHC157FT-EL			
	IC301	262 3054 004	MN102H460B			
	IC302	GEN 6236	ROM SUB ASS'Y(PANEL)	AT49LV1025-70JC		*
	IC303	262 2452 908	MN1382-R(TX)			
	IC401	262 3217 003	CXD2753R			*
	IC402	262 2875 006	16M SDRAM(TSOP)-7/8			
	IC403	262 3195 905	AD8062-SO8			*
	IC404	262 3236 000	EPM3064A			*
	IC405	262 2515 900	SN74LV04APW-EL2			
	IC406	262 2570 903	TC7W241FU(TE12L)			
	IC501	262 3219 001	CXD1881AR			*
	IC502	262 3218 002	CXD1885Q			*
	IC503	262 3210 000	M11L16161SA-45T			
	IC505	263 1109 909	AN8471SA			
	IC507	262 1782 909	TC7S08FTE85L			
	IC508	262 3221 002	FAN8042			*
	TR501,502	272 0160 901	2SB1132T100Q			
	TR503	273 0384 900	2SC2412KT96(S)			
	D101-105	276 0717 903	1SS355 TE-17			
	D301	276 0717 903	1SS355 TE-17			
	D501,502	276 0711 909	MA152WA			
	RESISTORS GROUP					
	RA101-111	247 9003 908	MNR14=220JE0AB			
	RA112-115	247 9007 917	MNR14=103JE0			
	RA401-405	247 9003 908	MNR14=220JE0AB			
	RA503,504	247 9007 904	MNR14=101JE0			
	RA506-509	247 9007 904	MNR14=101JE0			
	RA523	247 9007 904	MNR14=101JE0			
	RA524-528	247 9007 917	MNR14=103JE0			

	Ref. No.	Part No.	Part Name	Remarks		New
	CAPACITORS GROUP					
	C103,104	254 4464 906	CE67C0J101MT			
	C105,106	257 0511 904	CK73F1H103ZT			
	C107	257 0512 903	CK73F1E104ZT			
	C108,109	257 0511 904	CK73F1H103ZT			
	C110,111	257 0512 903	CK73F1E104ZT			
	C112	257 0511 904	CK73F1H103ZT			
	C113	257 0512 903	CK73F1E104ZT			
	C114	257 0511 904	CK73F1H103ZT			
	C117	257 0512 903	CK73F1E104ZT			
	C118,119	254 4465 905	CE67C1C220MT			
	C120,121	257 0512 903	CK73F1E104ZT			
	C122,123	257 0511 904	CK73F1H103ZT			
	C124	257 0512 903	CK73F1E104ZT			
	C125,126	257 0511 904	CK73F1H103ZT			
	C127-134	257 0512 903	CK73F1E104ZT			
	C136-138	257 0512 903	CK73F1E104ZT			
	C139	254 4464 906	CE67C0J101MT			
	C140-143	257 0512 903	CK73F1E104ZT			
	C145,146	257 0512 903	CK73F1E104ZT			
	C147	254 4465 905	CE67C1C220MT			
	C151,152	257 0511 904	CK73F1H103ZT			
	C153,154	254 4464 906	CE67C0J101MT			
	C155-160	257 0512 903	CK73F1E104ZT			
	C161	257 0511 904	CK73F1H103ZT			
	C162	257 0512 903	CK73F1E104ZT			
	C164	257 0512 903	CK73F1E104ZT			
	C165	257 0506 951	CC73CH1H101JT			
	C166	257 0512 903	CK73F1E104ZT			
	C168-171	257 0512 903	CK73F1E104ZT			
	C172	257 0509 929	CK73B1H102KT			
	C173-176	257 0512 903	CK73F1E104ZT			
	C177,178	257 0502 997	CC73CH1H7R0DT			
	C179	257 0512 903	CK73F1E104ZT			
	C180	254 4464 906	CE67C0J101MT			
	C181	257 0512 903	CK73F1E104ZT			
	C182	257 0509 929	CK73B1H102KT			
	C183	257 0512 903	CK73F1E104ZT			
	C184	254 4465 905	CE67C1C220MT			
	C185	257 0512 903	CK73F1E104ZT			
	C186	257 0509 929	CK73B1H102KT			
	C189-192	257 0512 903	CK73F1E104ZT			
	C194,195	257 0512 903	CK73F1E104ZT			
	C196	257 0511 904	CK73F1H103ZT			
	C197-200	257 0512 903	CK73F1E104ZT			
	C202	254 4465 905	CE67C1C220MT			
	C203,204	257 0512 903	CK73F1E104ZT			
	C205	254 4465 905	CE67C1C220MT			
	C206,207	257 0512 903	CK73F1E104ZT			
	C208	257 0504 924	CC73CH1H270JT			
	C209	257 0504 940	CC73CH1H330JT			
	C210	257 0511 904	CK73F1H103ZT			
	C211	257 0509 929	CK73B1H102KT			
	C212	257 0511 904	CK73F1H103ZT			
	C213	257 0509 929	CK73B1H102KT			
	C214	257 0511 904	CK73F1H103ZT			
	C215	257 0509 929	CK73B1H102KT			
	C216	257 0512 903	CK73F1E104ZT			
	C217	257 0509 929	CK73B1H102KT			
	C218	257 0512 903	CK73F1E104ZT			
	C219	257 0509 929	CK73B1H102KT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C220,221	254 4465 905	CE67C1C220MT			
	C222-225	257 0512 903	CK73F1E104ZT			
	C226	257 0509 929	CK73B1H102KT			
	C227	257 0512 903	CK73F1E104ZT			
	C228	257 0509 929	CK73B1H102KT			
	C230-232	254 4464 906	CE67C0J101MT			
	C234,235	257 0512 903	CK73F1E104ZT			
	C236	254 4465 905	CE67C1C220MT			
	C237	257 0512 903	CK73F1E104ZT			
	C240	257 0512 903	CK73F1E104ZT			
	C241	257 0509 929	CK73B1H102KT			
	C242	257 0512 903	CK73F1E104ZT			
	C243	257 0509 929	CK73B1H102KT			
	C244	257 0512 903	CK73F1E104ZT			
	C245	254 4464 906	CE67C0J101MT			
	C246	254 4465 905	CE67C1C220MT			
	C247,248	257 0511 904	CK73F1H103ZT			
	C249	257 0512 903	CK73F1E104ZT			
	C250	257 0509 929	CK73B1H102KT			
	C251	257 0512 903	CK73F1E104ZT			
	C252	257 0509 929	CK73B1H102KT			
	C253	257 0512 903	CK73F1E104ZT			
	C254,255	254 4465 905	CE67C1C220MT			
	C257	257 0512 903	CK73F1E104ZT			
	C258	257 0509 929	CK73B1H102KT			
	C259	257 0511 904	CK73F1H103ZT			
	C260,261	257 0512 903	CK73F1E104ZT			
	C301,302	257 0512 903	CK73F1E104ZT			
	C304,305	257 0512 903	CK73F1E104ZT			
	C306	254 4464 906	CE67C0J101MT			
	C307-310	257 0512 903	CK73F1E104ZT			
	C311	257 0503 967	CC73CH1H150JT			
	C312	257 0512 903	CK73F1E104ZT			
	C313	257 0503 967	CC73CH1H150JT			
	C314	257 0509 929	CK73B1H102KT			
	C315,316	257 0512 903	CK73F1E104ZT			
	C317	257 0509 929	CK73B1H102KT			
	C318-320	257 0511 904	CK73F1H103ZT			
	C321	254 4464 906	CE67C0J101MT			
	C322	257 0511 904	CK73F1H103ZT			
	C323	254 4465 918	CE67C1C470MT			
	C401-403	257 0512 903	CK73F1E104ZT			
	C404	254 4464 906	CE67C0J101MT			
	C405	257 0512 903	CK73F1E104ZT			
	C406	257 0501 901	CK73B1H103KT (1608)			
	C407,408	257 0512 903	CK73F1E104ZT			
	C409,410	254 4465 905	CE67C1C220MT			
	C411,412	257 0512 903	CK73F1E104ZT			
	C413,414	257 0502 942	CC73CH1H2R0CT			
	C415-419	257 0512 903	CK73F1E104ZT			
	C420	254 4465 905	CE67C1C220MT			
	C421,422	257 0512 903	CK73F1E104ZT			
	C423	254 4465 905	CE67C1C220MT			
	C424-429	257 0512 903	CK73F1E104ZT			
	C430	254 4464 906	CE67C0J101MT			
	C431-440	257 0512 903	CK73F1E104ZT			
	C441	254 4464 906	CE67C0J101MT			
	C442	257 0512 903	CK73F1E104ZT			
	C443	257 4010 906	CE67C1C101MT			
	C444,445	254 4464 906	CE67C0J101MT			
	C447	254 4464 906	CE67C0J101MT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C448-450	257 0512 903	CK73F1E104ZT			
	C452	257 0512 903	CK73F1E104ZT			
	C453,454	254 4465 905	CE67C1C220MT			
	C455	257 0512 903	CK73F1E104ZT			
	C456	254 4465 905	CE67C1C220MT			
	C457-460	257 0512 903	CK73F1E104ZT			
	C461	254 4464 906	CE67C0J101MT			
	C466	257 0511 904	CK73F1H103ZT			
	C501	254 4465 905	CE67C1C220MT			
	C502,503	257 0511 904	CK73F1H103ZT			
	C510	254 4465 905	CE67C1C220MT			
	C511,512	257 0511 904	CK73F1H103ZT			
	C513-516	257 0509 990	CK73B1H222KT			
	C517-520	257 0504 908	CC73CH1H220JT			
	C521	257 0516 954	CK73B1E104KT			
	C522,523	257 0510 934	CK73B1H472KT			
	C524	257 0507 976	CC73CH1H331JT			
	C525,526	257 0511 904	CK73F1H103ZT			
	C527	254 4465 905	CE67C1C220MT			
	C528	254 4465 918	CE67C1C470MT			
	C529	257 0509 929	CK73B1H102KT			
	C530	254 4465 918	CE67C1C470MT			
	C531	257 0509 929	CK73B1H102KT			
	C532-535	257 0516 954	CK73B1E104KT			
	C536	257 0501 901	CK73B1H103KT (1608)			
	C537	257 0516 954	CK73B1E104KT			
	C538	257 0501 901	CK73B1H103KT (1608)			
	C539	257 0506 993	CC73CH1H151JT			
	C540	257 0509 929	CK73B1H102KT			
	C545	254 4464 906	CE67C0J101MT			
	C546,547	257 0512 903	CK73F1E104ZT			
	C548	257 0511 904	CK73F1H103ZT			
	C549	257 4010 906	CE67C1C101MT			
	C550	257 0512 903	CK73F1E104ZT			
	C551-553	257 0520 911	CK73B1A224KT			
	C554	257 0516 954	CK73B1E104KT			
	C555,556	257 0512 903	CK73F1E104ZT			
	C558	257 0520 911	CK73B1A224KT			
	C559	257 0512 903	CK73F1E104ZT			
	C560	254 4465 905	CE67C1C220MT			
	C561	257 0501 901	CK73B1H103KT (1608)			
	C562	257 0516 941	CK73B1E473KT			
	C563,564	257 0511 904	CK73F1H103ZT			
	C565	254 4465 905	CE67C1C220MT			
	C566	257 0511 904	CK73F1H103ZT			
	C567	254 4465 905	CE67C1C220MT			
	C568	257 0511 904	CK73F1H103ZT			
	C569	257 0508 917	CC73CH1H471JT			
	C570	254 4464 919	CE67C0J471MT			
	C571	254 4465 905	CE67C1C220MT			
	C572-576	257 0511 904	CK73F1H103ZT			
	C578	257 0511 904	CK73F1H103ZT			
	C580	257 0511 904	CK73F1H103ZT			
	C581	257 0516 941	CK73B1E473KT			
	C582-584	257 0511 904	CK73F1H103ZT			
	C585,586	257 0508 917	CC73CH1H471JT			
	C587	257 0511 904	CK73F1H103ZT			
	C588	257 0507 976	CC73CH1H331JT			
	C589	257 0520 908	CK73B1A154KT			*
	C590	254 4464 906	CE67C0J101MT			
	C591	257 0507 976	CC73CH1H331JT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C592	257 0508 917	CC73CH1H471JT			
	C593	257 0520 908	CK73B1A154KT			*
	C594	257 0508 917	CC73CH1H471JT			
	C595	257 0516 954	CK73B1E104KT			
	C596	257 0511 904	CK73F1H103ZT			
	C597	257 0506 951	CC73CH1H101JT			
	C598,599	257 0516 909	CK73B1E223KT			
	C600-606	257 0511 904	CK73F1H103ZT			
	C607	257 0512 903	CK73F1E104ZT			
	C608,609	254 4465 905	CE67C1C220MT			
	C612	257 0512 903	CK73F1E104ZT			
	C615	257 0509 929	CK73B1H102KT			
	C616,617	257 0512 903	CK73F1E104ZT			
	C618	254 4465 905	CE67C1C220MT			
	C619,620	257 0511 904	CK73F1H103ZT			
	C621	254 4465 905	CE67C1C220MT			
	C622-625	257 0511 904	CK73F1H103ZT			
	C629,630	254 4465 905	CE67C1C220MT			
	C631,632	257 0510 950	CK73B1H682KT			
	C633	257 0509 929	CK73B1H102KT			
	C634,635	257 0506 951	CC73CH1H101JT			
	C636	257 0501 901	CK73B1H103KT (1608)			
	C637	257 0511 904	CK73F1H103ZT			
	C639	257 0510 950	CK73B1H682KT			
	OTHER PARTS GROUP					
	CX039	205 0863 936	3P PH CON.BASE(L)			
	CX052	205 0863 952	5P PH CON.BASE(L)			
	CX131	205 1170 932	13P FFC BASE(FMNBMTT			
	CX151	205 1149 905	15P FFC BASE(52207)			
	CX171	205 1174 909	17P FFC BASE(FMNSMT)			
	CX241	205 1152 905	24P FFC BASE(FLZ-SM1			
	CX271	205 1174 925	27P FFC BASE(FMNSMT)			*
	CX331	205 1170 945	33P FFC BASE(FMNBMTT			*
	CY121	205 0895 917	12P PH CON. BASE(T)			*
	FB101-104	235 0130 903	CHIP EMIFIL(11A121)			
	FB108,109	235 0130 903	CHIP EMIFIL(11A121)			
	FB110-128	247 2018 903	RM73B--0R0KT			
	FB301-318	247 2018 903	RM73B--0R0KT			
	FB401-403	235 0136 907	FBMJ1608HS280NT			
	FB405-408	235 0136 907	FBMJ1608HS280NT			
	FB501-503	235 0130 903	CHIP EMIFIL(11A121)			
	L101	235 0048 901	EMI FILTER (103)TP			
	X101	399 0619 906	X'TAL(27MHZ)			
	X103	399 0806 900	X'TAL(12.288 FCX03)			
	X301	399 0698 901	CSACW2500MX01			
		473 7506 019	2X6 CBTS (P)-Z			

GU-3495 AUDIO UNIT

	Ref. No.	Part No.	Part Name	Remarks		New
	SEMICONDUCTORS GROUP					
	IC201	262 1421 901	TC74HCT04AF(TAPE1)			
	IC202	269 0187 001	GP1FA551TZ			
	IC203,204	263 0896 909	NJM2068MD-TE1			
	IC205	263 1048 002	BA033T			
	IC206	262 3229 907	DSD1790DBR			
	IC207,208	263 0896 909	NJM2068MD-TE1			
	IC209	262 3229 907	DSD1790DBR			
	IC210,211	263 0896 909	NJM2068MD-TE1			
	IC212	262 3229 907	DSD1790DBR			
	IC213	263 0896 909	NJM2068MD-TE1			
	IC215	263 0896 909	NJM2068MD-TE1			
	IC216,217	263 0990 009	OP275GP			
	IC218,219	263 0615 902	BA15218F-DXE2			
	IC220	263 0896 909	NJM2068MD-TE1			
	IC221	263 0809 006	NJM7805FA(S)			
	IC222	263 0896 909	NJM2068MD-TE1			
	TR201	269 0119 901	DTA124EKT96(TAPE)			
	TR202	269 0082 902	DTC114EKT96			
	TR205,206	273 0460 905	KTC2875B-RTK	for E2		
	TR207-214	273 0460 905	KTC2875B-RTK			
	TR215,216	273 0460 905	KTC2875B-RTK	for E2		
	TR217	273 0426 907	2SC2412KLNT146			
	TR218	269 0083 901	DTA114EKT96			
	TR219	269 0119 901	DTA124EKT96(TAPE)			
	TR220	269 0082 902	DTC114EKT96			
	TR221-228	273 0460 905	KTC2875B-RTK			
	TR231-236	273 0460 905	KTC2875B-RTK			
	D201	276 0432 903	1SS270A TE (TAPE)			
	D202,203	276 0717 903	1SS355 TE-17			
	D206,207	276 0717 903	1SS355 TE-17			
	RESISTORS GROUP					
	R290	244 2052 915	RS14B3A182JNBST(S)			
	R295	241 2423 927	RD14B2E222JT(PSNB)			
	CAPACITORS GROUP					
	C201	257 0512 903	CK73F1E104ZT			
	C202	257 0511 904	CK73F1H103ZT			
	C203	257 0512 903	CK73F1E104ZT			
	C204	257 0511 904	CK73F1H103ZT			
	C205	257 0512 903	CK73F1E104ZT			
	C206	257 0511 904	CK73F1H103ZT			
	C207	257 0512 903	CK73F1E104ZT			
	C209	257 0509 929	CK73B1H102KT			
	C210	257 0512 903	CK73F1E104ZT			
	C211	257 0511 904	CK73F1H103ZT			
	C212	257 0509 929	CK73B1H102KT			
	C213	257 0512 903	CK73F1E104ZT			
	C214,215	257 0509 929	CK73B1H102KT			
	C216	257 0512 903	CK73F1E104ZT			
	C217	254 4525 900	CE04W1H330MT SMG/RE3			
	C218,219	257 0014 935	CK73F1E104ZT			
	C220,221	254 4382 910	CE04W1C221MT(ASF)			
	C223	257 0512 903	CK73F1E104ZT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C224	254 4524 985	CE04W1H100MT SMG/RE3			
	C225	257 0509 929	CK73B1H102KT			
	C226	257 0501 901	CK73B1H103KT (1608)			
	C228	257 0512 903	CK73F1E104ZT			
	C229	257 0509 929	CK73B1H102KT			
	C232	257 0512 903	CK73F1E104ZT			
	C233	257 0509 929	CK73B1H102KT			
	C234	254 4452 701	CE04W1C471MC(ASF)			
	C235-237	257 0512 903	CK73F1E104ZT			
	C239-241	257 0501 901	CK73B1H103KT (1608)			
	C243-247	254 4313 921	CE04W1H220MT(ASF)			
	C248-250	257 0501 901	CK73B1H103KT (1608)			
	C251	257 0511 904	CK73F1H103ZT			
	C253	257 0511 904	CK73F1H103ZT			
	C255	257 0511 904	CK73F1H103ZT			
	C258,259	254 4313 921	CE04W1H220MT(ASF)			
	C260-262	257 0512 903	CK73F1E104ZT			
	C277-284	257 0512 903	CK73F1E104ZT			
	C285-288	255 4254 973	CQ93P2A182JT(NH2)			
	C289-292	257 0512 903	CK73F1E104ZT			
	C293,294	257 3011 948	CF73=1H222JT(ECHUB5)			
	C295-300	257 3011 951	CF73=1H272JT(ECHUB5)			
	C301-304	255 4252 959	CQ93P2A221JT(NH2)			
	C305-308	257 3014 929	CF73=1C472JT(ECHUB5)			
	C309-316	257 3011 919	CF73=1H102JT(ECHUB5)			
	C317-320	257 0509 990	CK73B1H222KT			
	C321,322	254 4313 950	CE04W1H101MT(ASF)			
	C323-330	257 0512 903	CK73F1E104ZT			
	C331,332	254 4313 950	CE04W1H101MT(ASF)			
	C337,338	255 4254 931	CQ93P2A122JT(NH2)			
	C340	254 4313 921	CE04W1H220MT(ASF)			
	C341,342	255 4254 973	CQ93P2A182JT(NH2)			
	C343-346	257 0512 903	CK73F1E104ZT			
	C349	254 4558 702	CE04W1H101MC(RFS)	for E3,E2		
	C349	254 4445 750	CE04W1H101MC(ARSG)	for JP		
	C351	257 3011 919	CF73=1H102JT(ECHUB5)			
	C354	254 4558 702	CE04W1H101MC(RFS)	for E3,E2		
	C354	254 4445 750	CE04W1H101MC(ARSG)	for JP		
	C355	254 4347 751	CE04W1H2R2MC(ARSA)	for E3,E2		
	C357	254 4347 751	CE04W1H2R2MC(ARSA)	for E3,E2		
	C359,360	255 4256 955	CQ93P2A103JT(NH2)			
	C361-364	254 4313 950	CE04W1H101MT(ASF)			
	C365	254 4347 751	CE04W1H2R2MC(ARSA)	for E3,E2		
	C367	254 4347 751	CE04W1H2R2MC(ARSA)	for E3,E2		
	C369,370	257 0508 933	CC73CH1H561JT	for E2		
	C371-374	255 4253 932	CQ93P2A471JT(NH2)			
	C375-378	257 0509 929	CK73B1H102KT			
	C379	257 0512 903	CK73F1E104ZT			
	C380	257 0509 929	CK73B1H102KT			
	C381	257 0501 901	CK73B1H103KT (1608)			
	C382	257 0512 903	CK73F1E104ZT			
	C383,384	257 3011 919	CF73=1H102JT(ECHUB5)			
	C388	257 0511 904	CK73F1H103ZT	for E3,JP		
	C389	257 0512 903	CK73F1E104ZT	for E3,JP		
	C392,393	254 4615 700	CE04W1H220MBPC(ARS)			
	C394-397	254 4598 908	CE04W1H220MTBP(ASF)			
	C398	257 3011 919	CF73=1H102JT(ECHUB5)			
	C399	254 4445 750	CE04W1H101MC(ARSG)	for E3,E2		
	C399	254 4644 700	CE04W1H101MC(RGO)	for JP		
	C401	254 4313 921	CE04W1H220MT(ASF)			
	C402	257 0512 903	CK73F1E104ZT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C403	254 4313 921	CE04W1H220MT(ASF)			
	C404	254 4313 950	CE04W1H101MT(ASF)	for E3,E2		
	C404	254 4558 702	CE04W1H101MC(RFS)	for JP		
	C405	254 4313 921	CE04W1H220MT(ASF)			
	C407	254 4313 921	CE04W1H220MT(ASF)			
	C409,410	254 4313 921	CE04W1H220MT(ASF)			
	C421,422	254 4558 715	CE04W1H221MC(RFS)	for E3,E2		
	C421,422	254 4445 035	CE04W1H221M(ARSG)	for JP		
	OTHER PARTS GROUP					
	CX054	205 0343 058	5P CONN.BASE(KR-PH)	for E2		
	CY041	205 0343 045	4P CONN.BASE(KR-PH)			
	CY271	205 1100 083	27P FFC BASE (P=1)			
	FB201-203	235 0130 903	CHIP EMIFIL(11A121)			
	FB204-208	247 2018 903	RM73B--0R0KT	for E3,JP		
	FB209,210	247 2018 903	RM73B--0R0KT	for E3,JP		
	FB209,210	235 0130 903	CHIP EMIFIL(11A121)	for E2		
	FB213	247 2018 903	RM73B--0R0KT			
	FB215	247 2018 903	RM73B--0R0KT			
	FB217	247 2018 903	RM73B--0R0KT			
	JK201	204 8618 009	1P PIN JACK(AU)			
	JK202	204 8668 004	8P PIN JACK (AU)			*
	ST701	205 0452 017	STYLE PIN			
	T201	231 8063 009	PULSE TRANS			
		203 0469 033	1P CONTACT ASS'Y			
		203 0717 002	1P SIN-SIN WIRE			
		417 0476 010	RADIATOR			
		471 3303 016	3X6 CBS-Z			

GU-3496 POWER/DISP. UNIT

	Ref. No.	Part No.	Part Name	Remarks		New
	SEMICONDUCTORS GROUP					
	IC101	262 3048 007	ML9207-01GP			
	IC103	499 0303 004	GP1UM271XK			
	IC510	262 2580 906	CXA1511M			
	IC511	262 2114 903	UPD4721GS-GJG			
	IC901	265 0112 003	STR-F6674			
	IC902	262 3047 008	PC123 Y-22			
	IC903	263 1113 005	SE005N			
	IC904	263 1048 002	BA033T			
	IC905	263 1114 004	PQ1CG21H2FZ			
	IC906	263 0809 006	NJM7805FA(S)			
	IC908	263 0554 005	NJM7905FA			
	IC909	263 0810 008	NJM7808FA(S)			
	IC912	263 0753 000	NJM7809FA(S)			
	IC913	263 0878 008	NJM7909FA			
	TR101	269 0171 907	IMD3A-T108			
	TR102,103	269 0082 902	DTC114EKT96			
	TR501	269 0171 907	IMD3A-T108			
	TR902	269 0082 902	DTC114EKT96			
	TR903	272 0093 010	2SB1274 (R/S)			
	TR905	269 0083 901	DTA114EKT96			
	TR906	269 0082 902	DTC114EKT96			
	TR907	275 0106 906	HAT2053M(TAPE)			
	TR908,909	274 0036 905	2SD468(C)TF			
	TR910,911	269 0083 901	DTA114EKT96			
	TR912	274 0036 905	2SD468(C)TF			
	D102-104	276 0717 903	1SS355 TE-17			
	D901-904	276 0729 904	EM01AT (V1)			
	D905	276 0730 906	AG01ZT (V1)			
	D906	276 0724 909	SARS01T (V1)			
	D907-909	276 0730 906	AG01ZT (V1)			
	D910	276 0725 704	RK39 LF-C4			
	D911	276 0783 005	FMB-2204			*
	D912	276 0745 904	RB411DT146			
	D913,914	276 0727 906	AL01ZT (V1)			
	D915,916	276 0717 903	1SS355 TE-17			
	D917,959	276 0737 939	RB161L-40			
	D918	276 0717 903	1SS355 TE-17			
	D923,924	276 0717 903	1SS355 TE-17			
	D957,958	276 0717 903	1SS355 TE-17			
	ZD901	276 0457 904	HZS4C-1TD			
	LD101	393 9623 908	SEL2810A(TP7)	Amber		
	LD102	393 9576 903	SELU1E10CXM-002	Blue		
	LD103	393 9504 904	SEL1210S(TP7)	Red		
⚠	TH901	279 0044 002	NTH11D8R0LA			
	RESISTORS GROUP					
	R547	244 2052 928	RS14B3A470JNBST(S)			
	R901	244 2675 716	RS14B3D683JNBF (ERG)			
	R902	244 2671 956	RS14B3DR47JNBST(S)			
	R905	244 2675 729	RS14B3D224JNBF (ERG)			
	R906	244 2675 703	RS14B3D470JNBF (ERG)			
	R913	244 2043 953	RS14B3A471JNBST(S)			
	R920	241 2423 927	RD14B2E222JT(PSNB)			

	Ref. No.	Part No.	Part Name	Remarks		New
	R932	244 2052 999	RS14B3A103JNBST(S)			
	R937	244 2064 929	RS14B3A3R3JNBST(S)			
	CAPACITORS GROUP					
	C101,102	257 0512 903	CK73F1E104ZT			
	C106,107	257 0502 971	CC73CH1H5R0CT			
	C108,109	257 0512 903	CK73F1E104ZT			
	C110	257 0509 929	CK73B1H102KT			
	C111	254 4299 964	CE04W1C470MT(SRE)			
	C113	257 0509 929	CK73B1H102KT			
	C114	257 0511 904	CK73F1H103ZT			
	C115	257 0509 929	CK73B1H102KT			
	C116,117	257 0511 904	CK73F1H103ZT			
	C118	257 0509 929	CK73B1H102KT			
	C119	257 0512 903	CK73F1E104ZT			
	C120	257 0509 929	CK73B1H102KT			
⚠	C121	253 8022 707	CK45F2EAC103MC			
	C122	257 0509 929	CK73B1H102KT			
	C501	257 0511 904	CK73F1H103ZT			
	C502	257 0509 929	CK73B1H102KT			
	C505	257 0512 903	CK73F1E104ZT			
	C509	257 0512 903	CK73F1E104ZT			
	C510	257 0509 929	CK73B1H102KT			
	C511	257 0511 904	CK73F1H103ZT			
	C566	257 0506 951	CC73CH1H101JT			
	C567	257 0501 901	CK73B1H103KT (1608)			
	C568	254 4538 939	CE04W1C470MT SMG/RE3			
	C569	257 0501 901	CK73B1H103KT (1608)			
	C570	254 4524 943	CE04W1H010MT SMG/RE3			
	C571	257 0501 901	CK73B1H103KT (1608)			
	C573	257 0501 901	CK73B1H103KT (1608)			
	C574	257 0509 929	CK73B1H102KT			
	C575	257 0501 901	CK73B1H103KT (1608)			
	C576-578	254 4524 901	CE04W1H0R1MT SMG/RE3			
	C579	254 4313 934	CE04W1H470MT(ASF)			
	C580	257 0512 903	CK73F1E104ZT			
	C581,582	254 4524 901	CE04W1H0R1MT SMG/RE3			
	C585,586	257 0506 951	CC73CH1H101JT			
	C588	257 0506 951	CC73CH1H101JT			
	C589,590	257 0511 917	CK73F1H223ZT			
	C593,594	257 0511 904	CK73F1H103ZT			
⚠	C901	256 8038 017	CF99--2EAC224M			
⚠	C902	256 8038 004	CF99--2EAC104M			
	C905	254 4589 713	CE04W2G101MC(KMG)	for E3,JP		
	C905	254 4589 700	CE04W2G470MC (KMG)	for E2		
	C906	253 4546 711	CC45SL3D221JC			
	C907	253 4452 902	CC45SL1H471JT			
	C908	253 9030 963	CK45=1E103KT			
	C909	254 4313 934	CE04W1H470MT(ASF)			
⚠	C910	253 8029 700	CK45F2EAC222MC (KX)			
	C911	253 8028 701	CK45R3A222KC			
	C912	255 1249 923	CQ93M1H681JT (B)			
	C913	254 4533 921	CE04W0J101MT SMG/RE3	for E3,E2		
	C913	254 4313 950	CE04W1H101MT(ASF)	for JP		
	C914	254 4592 700	CE04W0J222MC K20(LXV			
	C915	254 4593 709	CE04W1C122MC K20(LXJ			
	C916	254 4591 905	CE04W1H101MT (KMF)			
	C917	254 4593 709	CE04W1C122MC K20(LXJ			
	C918	254 4591 905	CE04W1H101MT (KMF)			
	C919	256 1058 971	CF93A1H104JT (JL)			
	C920,950	254 4538 955	CE04W1C221MT SMG/RE3	for E3,E2		

	Ref. No.	Part No.	Part Name	Remarks		New
	C920,950	254 4313 798	CE04W1H221MC (ASF)	for JP		
	C921	254 4533 921	CE04W0J101MT SMG/RE3			
	C922,923	257 0512 903	CK73F1E104ZT			
	C924	254 4538 942	CE04W1C101MT SMG/RE3			
	C925	254 4313 934	CE04W1H470MT(ASF)			
	C926	257 0512 903	CK73F1E104ZT			
	C927	257 0511 904	CK73F1H103ZT			
	C928	254 4585 908	CE04W0J471MT(LXV)			
	C929	254 4533 921	CE04W0J101MT SMG/RE3			
	C930-932	257 0512 903	CK73F1E104ZT			
	C934	254 4368 934	CE04W1E101MT(ASF)			
	C935	257 0512 903	CK73F1E104ZT			
	C936	254 4538 942	CE04W1C101MT SMG/RE3			
	C937	254 4368 934	CE04W1E101MT(ASF)			
	C938	257 0512 903	CK73F1E104ZT			
	C939	254 4368 934	CE04W1E101MT(ASF)			
	C941	257 0511 904	CK73F1H103ZT			
	C942-946	257 0512 903	CK73F1E104ZT			
	C947	257 0511 904	CK73F1H103ZT			
	C948	257 0512 903	CK73F1E104ZT			
	C949	257 0511 904	CK73F1H103ZT			
	C951	257 0512 903	CK73F1E104ZT			
	C954,955	257 0512 903	CK73F1E104ZT			
	C958,959	254 4382 910	CE04W1C221MT(ASF)			
	C964	254 4538 942	CE04W1C101MT SMG/RE3	for E3,E2		
	C964	254 4313 950	CE04W1H101MT(ASF)	for JP		
	C983,984	257 0512 903	CK73F1E104ZT			
	OTHER PARTS GROUP					
	CW035	203 5312 004	3P PH-SAN CON.CORD			
	CX024	205 0581 001	2P VH CONNECTOR BASE			
	CX025	205 0581 056	2P VH CONNECTOR BASE			
	CX035	205 0355 033	3P KR CON BASE(L)			
	CX041	205 0343 045	4P CONN.BASE(KR-PH)			
	CX051	205 0343 058	5P CONN.BASE(KR-PH)			
	CX061	205 0343 061	6P CONN.BASE(KR-PH)			
	CX121	205 0375 026	12P CONN.BASE(KR-PH)			
	CY025	205 0581 056	2P VH CONNECTOR BASE			
	CY061	205 0343 061	6P CONN.BASE(KR-PH)			
	CY131	205 0892 088	13P FFC CON. BASE			
	CY171	205 1006 080	17P FFC BASE(P=1)			
⚠	F951	206 1087 015	FUSE (ET1A)	for E3,JP		*
⚠	F951	206 1087 073	FUSE (ET1.6A)	for E2		*
	FB519	235 0130 903	CHIP EMIFIL(11A121)			
	FB527-530	235 0130 903	CHIP EMIFIL(11A121)			
	FB753-756	235 0130 903	CHIP EMIFIL(11A121)			
	FF901	202 0040 909	FUSE CLIP (TAPE)			
	FH901	202 0040 909	FUSE CLIP (TAPE)			
	FL101	393 8060 009	FL TUBE(17-ST-04GNK)			
	JK507,508	204 8612 005	MINI JACK			
	JK509	205 1153 001	9P S SUB CONNECTOR			
⚠	L901	235 0141 002	LINE FILTER (PLA10A)			

	Ref. No.	Part No.	Part Name	Remarks		New
	L902	235 0142 917	COIL LHL08TB4R7MT			
	L904	235 0140 906	COIL LHL10TB101KT			
	L907-909	235 0142 917	COIL LHL08TB4R7MT			
	S101-106	212 5604 910	TACT SWITCH-TA(ALPS)			
	S107	212 0389 007	ROTARY SW(1-3)			
	S108-110	212 5604 910	TACT SWITCH-TA(ALPS)			
!	S120	212 1030 009	POWER SWITCH (TV-5)			
	ST901	205 0452 017	STYLE PIN			
	ST903	205 0452 017	STYLE PIN			
⚠	T901	233 6403 007	SW TRANSFORMER(WIDE)			
	X101	399 0151 008	X-TAL(4.332MHZ)			
		417 0476 010	RADIATOR			
		417 0592 004	HEAT SINK			
		417 0610 009	HEAT SINK(OSH-2430)			
		461 1125 118	FL SPACER			
		471 3303 016	3X6 CBS-Z			
		471 3305 027	3X10 CBS			
		513 3827 003	FUSE LABEL	for E2		
		001 0101 025	VINYL WIRE	for E2		

GU-3497 VIDEO UNIT

	Ref. No.	Part No.	Part Name	Remarks		New
	SEMICONDUCTORS GROUP					
	IC601	262 3126 000	XC2S30-5VQ100C			
	IC602	262 3127 009	XC17S30AV08C(SQZ)			
	IC603	262 1348 903	TC74HC123AF(TP1)			
	IC604	262 2519 906	SN74LV00APW-EL2			
	IC605	262 1793 901	TC4W53F	for E2		
	IC701	262 3058 000	SII504CM208			
	IC702	262 2916 004	64M SDRAM(TSOP)			
	IC703	262 3059 902	PIC18LC242-I/SO TAPE			
	IC704	262 3050 008	ADV7300			
	IC705	262 3093 007	ADV7190	for E2		
	IC706	262 3020 902	BH7860FP-E2			
	IC707	262 3020 902	BH7860FP-E2	for E2		
	IC708-710	263 1082 903	TK15420MTL			
	IC711	262 1348 903	TC74HC123AF(TP1)			
	IC712	263 1110 901	PQ070XZ01ZP			
	IC713	263 1079 903	BA033FP			
	IC714	262 2977 904	BA18BC0FP-E2			
	IC715	263 1079 903	BA033FP	for E2		
	TR701,702	271 0293 901	2SA1022-B			
	TR703	274 0163 904	2SD601A			
	TR704,705	272 0125 904	2SB709A			
	TR706	274 0163 904	2SD601A			
	TR707,708	272 0125 904	2SB709A			
	TR709,710	274 0163 904	2SD601A			
	TR711,712	271 0293 901	2SA1022-B			
	TR713	272 0125 904	2SB709A			
	TR714-716	272 0125 904	2SB709A	for E2		
	TR719	272 0125 904	2SB709A	for JP		
	TR720	274 0163 904	2SD601A	for JP		
	TR721	272 0125 904	2SB709A	for JP		
	TR722	274 0163 904	2SD601A	for JP		
	TR723-725	269 0082 902	DTC114EKT96	for E2,JP		
	TR726-728	269 0083 901	DTA114EKT96	for E2,JP		
	D701-703	276 0717 903	1SS355 TE-17			
	RESISTORS GROUP					
	RA601-604	247 9002 909	MNR14=330JE0AB			
	RA701-708	247 9002 909	MNR14=330JE0AB			
	RA709-712	247 9002 909	MNR14=330JE0AB	for E2		
	VR701-706	211 6148 906	V03PB471MT(RH03ADCS)			
	VR708	211 6138 903	V03PB102MT(RH03ADC)	for E2		
	CAPACITORS GROUP					
	C601,602	257 0512 903	CK73F1E104ZT			
	C603	254 4465 905	CE67C1C220MT			
	C604-609	257 0512 903	CK73F1E104ZT			
	C611-613	257 0512 903	CK73F1E104ZT			
	C614	254 4465 905	CE67C1C220MT			
	C615-617	257 0512 903	CK73F1E104ZT			
	C618,619	257 0509 929	CK73B1H102KT			
	C620,621	257 0512 903	CK73F1E104ZT			
	C622,623	257 0512 903	CK73F1E104ZT	for E2		
	C701-707	257 0512 903	CK73F1E104ZT			
	C708	257 0511 904	CK73F1H103ZT			
	C709	257 0512 903	CK73F1E104ZT			

	Ref. No.	Part No.	Part Name	Remarks		New
	C710	254 4465 905	CE67C1C220MT			
	C711	257 0511 904	CK73F1H103ZT			
	C712	254 4464 906	CE67C0J101MT			
	C713-715	257 0512 903	CK73F1E104ZT			
	C717-721	257 0512 903	CK73F1E104ZT			
	C723,724	257 0512 903	CK73F1E104ZT			
	C725,726	254 4464 906	CE67C0J101MT			
	C727	257 0512 903	CK73F1E104ZT			
	C728	254 4464 906	CE67C0J101MT			
	C729-738	257 0512 903	CK73F1E104ZT			
	C739	254 4464 906	CE67C0J101MT			
	C742	257 0511 904	CK73F1H103ZT			
	C743	257 0512 903	CK73F1E104ZT			
	C745,746	254 4464 906	CE67C0J101MT			
	C747,748	257 0512 903	CK73F1E104ZT			
	C749	254 4464 906	CE67C0J101MT			
	C750	257 0512 903	CK73F1E104ZT			
	C752	257 0511 904	CK73F1H103ZT			
	C753	257 0512 903	CK73F1E104ZT			
	C755,756	257 0512 903	CK73F1E104ZT			
	C758	257 0509 903	CK73B1H821KT			
	C759	257 0512 903	CK73F1E104ZT			
	C760	254 4464 906	CE67C0J101MT			
	C761	257 0510 921	CK73B1H392KT			
	C762	257 0502 971	CC73CH1H5R0CT			
	C765,766	257 0512 903	CK73F1E104ZT			
	C768,769	257 0512 903	CK73F1E104ZT			
	C770-772	254 4464 906	CE67C0J101MT			
	C775	257 0503 925	CC73CH1H100DT			
	C776,777	257 0512 903	CK73F1E104ZT			
	C779,780	257 0512 903	CK73F1E104ZT			
	C781,782	254 4465 905	CE67C1C220MT			
	C783	254 4572 908	CE67C1C100MT(MV-B)			
	C787,788	257 0512 903	CK73F1E104ZT			
	C790,791	257 0512 903	CK73F1E104ZT			
	C792,793	254 4465 905	CE67C1C220MT			
	C794	254 4572 908	CE67C1C100MT(MV-B)			
	C795,796	257 0512 903	CK73F1E104ZT			
	C797,798	254 4464 906	CE67C0J101MT			
	C799,800	257 0512 903	CK73F1E104ZT			
	C801	254 4464 906	CE67C0J101MT			
	C802	257 0507 934	CC73CH1H221JT			
	C803	257 0512 903	CK73F1E104ZT			
	C804,805	257 0509 929	CK73B1H102KT			
	C806,807	257 0512 903	CK73F1E104ZT			
	C808	254 4464 906	CE67C0J101MT			
	C809,810	257 0512 903	CK73F1E104ZT	for E2		
	C811,812	254 4464 906	CE67C0J101MT	for E2		
	C813-815	257 0512 903	CK73F1E104ZT	for E2		
	C816	254 4465 905	CE67C1C220MT	for E2		
	C817	257 0512 903	CK73F1E104ZT	for E2		
	C818	254 4465 905	CE67C1C220MT	for E2		
	C819	257 0512 903	CK73F1E104ZT	for E2		
	C820	257 0511 904	CK73F1H103ZT	for E2		
	C823-827	257 0512 903	CK73F1E104ZT	for E2		
	C828,829	257 0512 903	CK73F1E104ZT			
	C830-832	257 0512 903	CK73F1E104ZT	for E2		
	C833	254 4464 906	CE67C0J101MT			
	C834	257 0501 901	CK73B1H103KT (1608)			
	C835	254 4465 918	CE67C1C470MT			
	C836	254 4465 918	CE67C1C470MT	for E2		

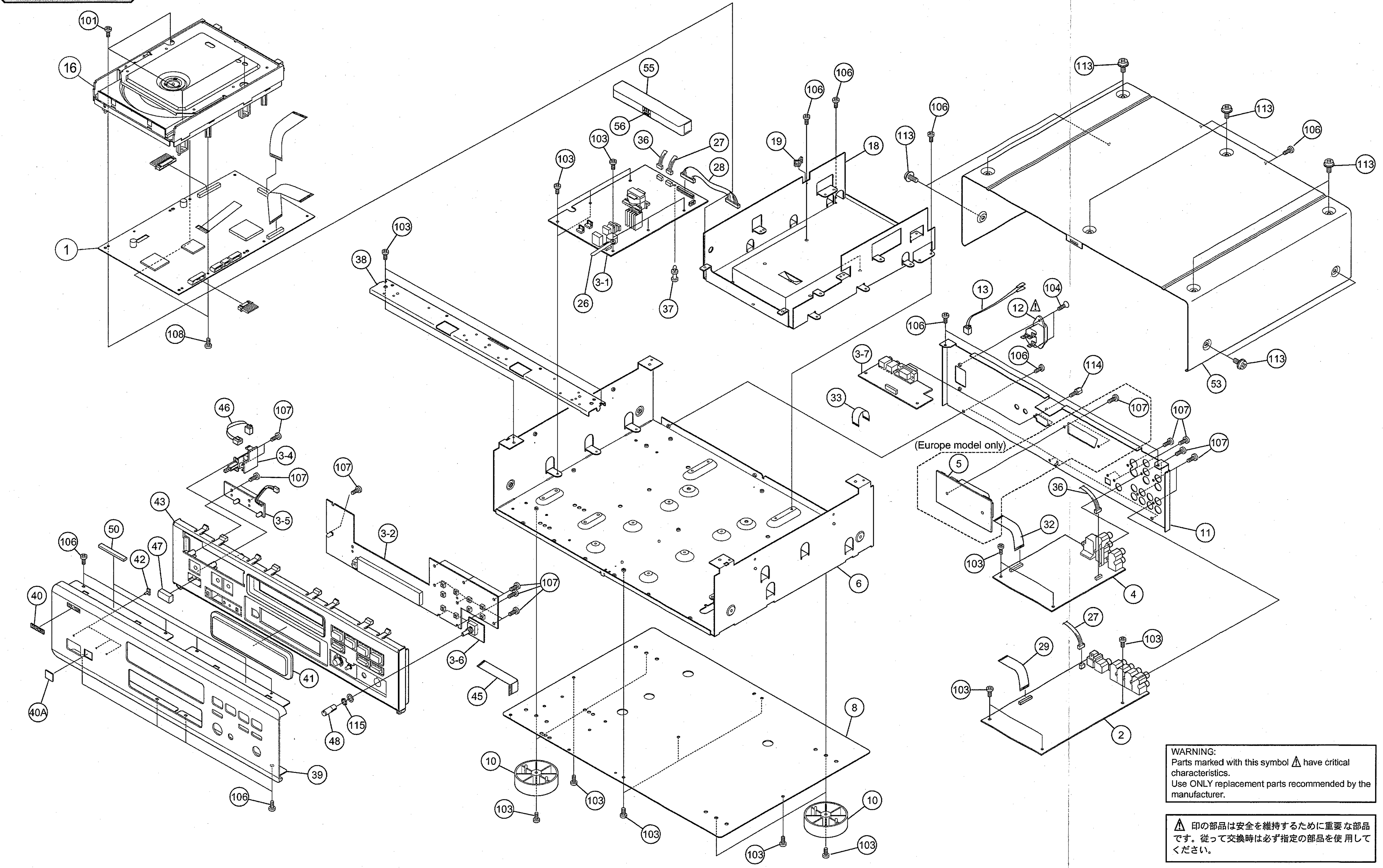
	Ref. No.	Part No.	Part Name	Remarks		New
	C837,838	257 0511 904	CK73F1H103ZT			
	C839	254 4464 906	CE67C0J101MT			
	C840	257 0512 903	CK73F1E104ZT			
	C841	257 0506 951	CC73CH1H101JT			
	C843	257 0501 901	CK73B1H103KT (1608)			
	C844	254 4327 904	CE04W0J102MT(SMG)			
	C845	254 4464 906	CE67C0J101MT			
	C846	254 4327 904	CE04W0J102MT(SMG)			
	C847	254 4464 906	CE67C0J101MT			
	C848	254 4533 950	CE04W0J471MT SMG/RE3	for E2		
	C850-852	254 4465 918	CE67C1C470MT	for E2		
	C853,854	257 0511 904	CK73F1H103ZT	for E2		
	C855	254 4464 906	CE67C0J101MT	for E2		
	C856	257 0512 903	CK73F1E104ZT	for E2		
	C857	257 0506 951	CC73CH1H101JT	for E2		
	C861,862	254 4533 950	CE04W0J471MT SMG/RE3	for E2		
	C863	257 0512 903	CK73F1E104ZT			
	C864	257 0511 904	CK73F1H103ZT			
	C865	257 0509 929	CK73B1H102KT			
	C866	254 4464 906	CE67C0J101MT	for E2		
	C867,868	257 0512 903	CK73F1E104ZT			
	C869	257 0511 904	CK73F1H103ZT			
	C870	257 0509 929	CK73B1H102KT			
	C875-879	257 0512 903	CK73F1E104ZT			
	OTHER PARTS GROUP					
	CY053	205 0895 904	5P KR-PH CON BASE(T)			
	CY101	205 0884 054	10P CON.BASE TUC-P	for E2		
	CY331	205 1170 945	33P FFC BASE(FMNBMTT			*
	JK701	204 8670 005	1P/S-TERMINAL			*
	JK702	204 8669 003	3P PIN JACK			*
	JK703	204 6670 007	D CONNECTOR	for JP		
	L704,705	235 0125 905	INDUCTOR(FLC32C220K)			
	L710	235 0125 905	INDUCTOR(FLC32C220K)			
	L712	235 0149 907	LK1608R68K-T			
	L713	235 0125 905	INDUCTOR(FLC32C220K)	for E2		
	L715	235 0149 907	LK1608R68K-T	for E2		
	LF701	261 0161 900	ELB4B590N			
	LF702	261 0160 901	ELB4C572			
	ST101,102	205 0452 017	STYLE PIN			
	X702	399 0832 903	CSTCG20MOV51-R0			

GU-3343 SCART PWB UNIT

	Ref. No.	Part No.	Part Name	Remarks		New
	SEMICONDUCTORS GROUP					
	IC851	262 1793 901	TC4W53F			
	IC852	263 1115 906	NJM2267M (TE2)			
	IC853	262 0707 901	TC4053BF (TAPE)			
	IC854	262 2534 907	BA7660FS-E2			
	TR851-854	269 0082 902	DTC114EKT96			
	TR855	269 0083 901	DTA114EKT96			
	CAPACITORS GROUP					
	C851,852	257 0506 951	CC73CH1H101JT			
	C853	254 4299 964	CE04W1C470MT(SRE)			
	C854,855	254 4300 963	CE04W0J101MT(SRE)			
	C856-859	257 0512 903	CK73F1E104ZT			
	C860,861	254 4300 963	CE04W0J101MT(SRE)			
	C862	257 0512 903	CK73F1E104ZT			
	C863	254 4300 963	CE04W0J101MT(SRE)			
	C864,865	257 0512 903	CK73F1E104ZT			
	C866-868	254 4299 964	CE04W1C470MT(SRE)			
	C869	254 4300 963	CE04W0J101MT(SRE)			
	C870	254 4299 919	CE04W1C220MT(SRE)			
	C871	254 4300 963	CE04W0J101MT(SRE)			
	C872	254 4299 919	CE04W1C220MT(SRE)			
	C873	254 4300 963	CE04W0J101MT(SRE)			
	C874	254 4299 919	CE04W1C220MT(SRE)			
	C875	257 0512 903	CK73F1E104ZT			
	C876	254 4300 963	CE04W0J101MT(SRE)			
	C877,878	257 0512 903	CK73F1E104ZT			
	C879	257 0511 904	CK73F1H103ZT			
	C880	257 0509 929	CK73B1H102KT			
	C884-887	247 2018 903	RM73B--0R0KT			
	C890-892	247 2018 903	RM73B--0R0KT			
	C896,897	257 0512 903	CK73F1E104ZT			
	-	254 4538 955	CE04W1C221MT SMG/RE3			
	OTHER PARTS GROUP					
	CX052	205 0395 051	5P CONN.BASE(RED)L			
	CX101	205 0885 053	10P CON.SOCKET TUC-P			
	FB851-856	235 0130 903	CHIP EMIFIL(11A121)			
	JK851	204 6649 009	RGB CONNECTOR			
	L851	235 0070 911	INDUCTOR(220)ST			
	W701	414 0903 005	SCART SHIELD PLATE			
		001 0231 005	1P WIRE			
		001 0231 018	1P WIRE			
		461 0415 007	RUBBER SHEET			

EXPLODED VIEW

Parts List


101
16
1
108
55
56
103
103
36
27
28
26
3-1
37
19
18
106
106
106
113
113
113
106
113
113
53
38
103
13
12 ⚠
104
106
3-7
106
114
33
107
107
107
(Europe model only)
5
36
11
32
103
4
46
107
3-4
107
3-5
43
107
3-2
106
50
42
47
40
107
3-6
41
40A
48
115
39
106
45
6
8
10
103
103
103
10
103
103
103
27
29
103
103
2

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

⚠ 印の部品は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

PARTS LIST OF EXPLODED VIEW

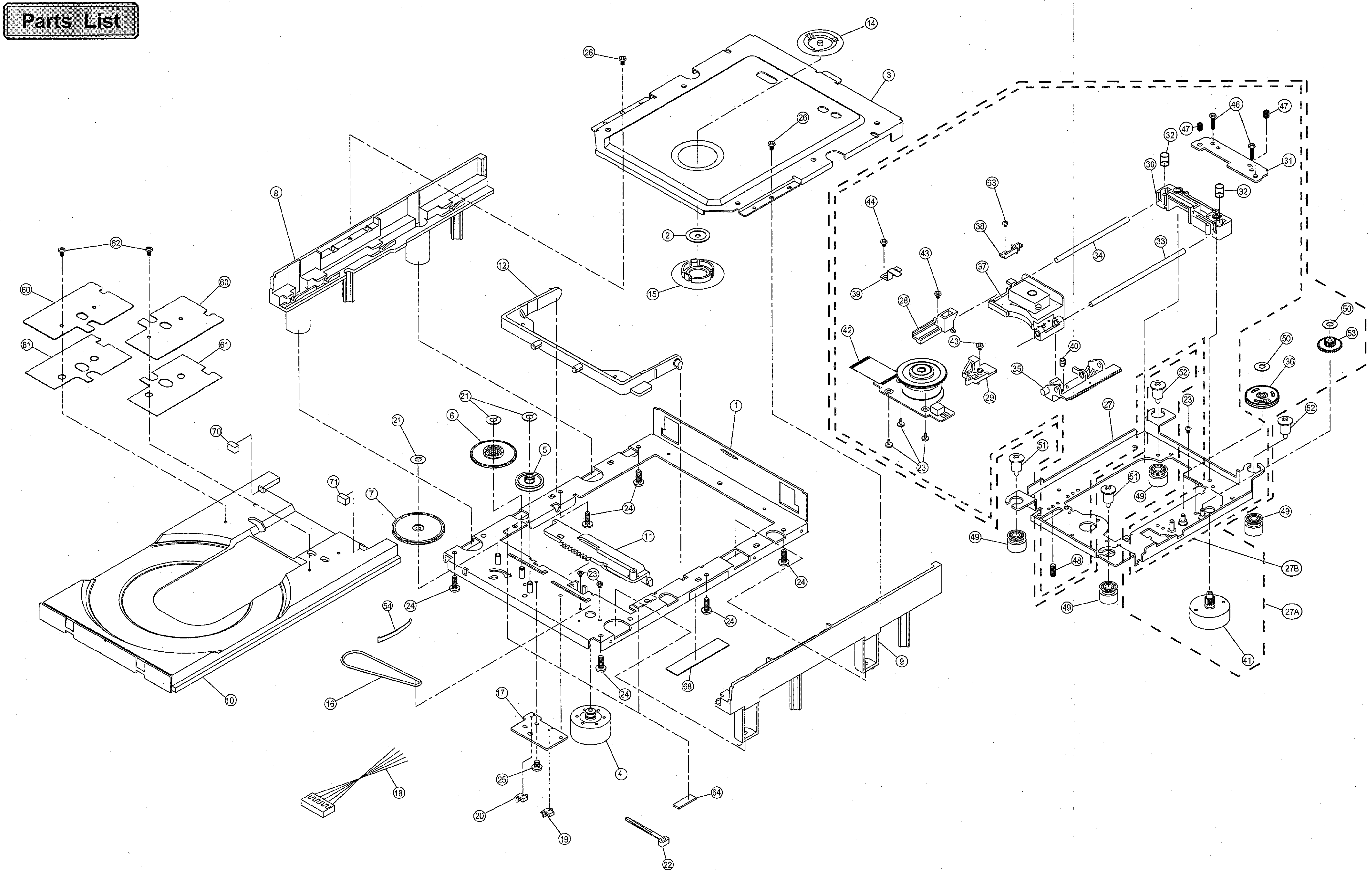
Note : The symbols in the column "Remarks" indicate the following destinations.
E3 : U.S.A. & Canada model
E2 : Europe model
JP : Japan model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	1	GU- 3494	MAIN UNIT		1	*
	2	GU- 3495	AUDIO UNIT	for E3	1	*
	2	GU- 3495 A	AUDIO UNIT	for E2	1	*
	2	GU- 3495 B	AUDIO UNIT	for JP	1	*
	3	GU- 3496	POWER/DISP. UNIT	for E3	1	*
	3	GU- 3496 A	POWER/DISP. UNIT	for E2	1	*
	3	GU- 3496 B	POWER/DISP. UNIT	for JP	1	*
	3-1	-	POWER UNIT			
	3-2	-	DISPLAY UNIT			
	3-4	-	POWER SW. UNIT			
	3-5	-	LED UNIT			
	3-6	-	SELECT UNIT			
	3-7	-	I/F UNIT			
	4	GU- 3497	VIDEO UNIT	for E3	1	*
	4	GU- 3497 A	VIDEO UNIT A (E2)	for E2	1	*
	4	GU- 3497 B	VIDEO UNIT B (N)	for JP	1	*
	5	GU- 3343	SCART PWB UNIT	for E2	1	
	6	411 1961 102	CHASSIS		1	
	8	105 1402 009	BOTTOM COVER		1	
	10	104 0313 015	FOOT ASS'Y	for E3,E2	4	
	10	104 0173 226	FOOT ASS'Y	for JP	4	
	11	105 1424 100	REAR PANEL	for E3	1	*
	11	105 1424 126	REAR PANEL	for E2	1	*
	11	105 1424 139	REAR PANEL	for JP	1	*
⚠	12	203 3994 000	AC INLET (3P)	for E3,JP	1	
⚠	12	203 3995 009	AC INLET (2P)	for E2	1	
	13	203 5293 013	3P VH CON.CORD		1	
★	14	342 0032 011	FERRITE CLAMP(RFC-9)		1	
★	15	445 0033 005	WIRE CLAMP BAND		1	
	16	337 0118 001	DVD MECHA(TD-5HP-D3)		1	*
	18	411 2026 004	MECHA FIX BRACKET		1	*
	19	445 0099 007	EDGING (EDS-1208U)		1	
	26	445 0048 016	CORD HOLDER (L50)		1	
★	27	203 6493 032	4P PH-PH CONN.CORD		1	*
	28	204 6610 012	12P PH-PH CORD		1	*
	29	009 0226 069	27P FFC (1.0)		1	*
	32	009 0226 056	33P FFC (1.0)		1	*
	33	009 0226 072	13P FFC (1.0)		1	*
★	34	513 3406 107	LABEL (A)	for E3	1	
★	34	513 3463 001	LABEL(LASER)	for E2	1	
★	35	513 2065 002	E2 LASER CAUTION	for E2	1	
	36	203 8489 015	5P PH-PH CON.CORD		1	*
	37	412 2814 015	CARD SPACER (L=14)		1	
	38	412 4944 006	FRONT ANGLE		1	
	39	144 2830 109	FRONT PANEL	for Black model	1	*
	39	144 2830 112	FRONT PANEL	for Gold model	1	*
	40	131 9004 013	DENON MARK	for Black model	1	
	40	131 9004 068	DENON MARK	for Gold model	1	
	40A	135 0068 018	SACD PLATE	for Black model	1	*
	40A	135 0068 021	SACD PLATE	for Gold model	1	*
	41	143 1145 009	WINDOW		1	
	42	143 1110 005	LENS		3	
	43	146 2225 503	INNER PANEL	for Black model	1	*
	43	146 2225 516	INNER PANEL	for Gold model	1	*
★	43A	461 1156 006	INNER PANEL PLATE		1	*
★	44	204 0572 004	6P PH-PH CON.CORD		1	*
	45	009 0226 085	17P FFC (1.0)		1	*
	46	203 5313 003	3P VH-VH CON.CORD		1	*

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	47	113 1886 008	P.SW KNOB	for Black model	1	
	47	113 1886 011	P.SW KNOB	for Gold model	1	
	48	112 0855 024	VOL KNOB(B)	for Black model	1	
	48	112 0855 037	VOL KNOB(B)	for Gold model	1	
	50	129 0253 048	RUBBER SHEET		2	
	53	102 0644 005	TOP COVER	for Black model	1	
	53	102 0644 018	TOP COVER	for Gold model	1	
	55	146 2309 005	LOADER PANEL	for Black model	1	*
	55	146 2309 018	LOADER PANEL	for Gold model	1	*
	56	135 0065 008	DVD A/VIDEO PLATE	for Black model	1	
	56	135 0065 011	DVD A/VIDEO PLATE	for Gold model	1	
★	57	513 3747 015	RATING SHEET	for E3	1	*
★	57	513 3798 019	RATING SHEET(E2)	for E2	1	*
★	57	513 3800 017	RATING SHEET(DOM)	for JP	1	*
★	59	513 1381 004	MANUFAC.DATE LABEL	for E3,JP	1	
	SCREWS					
	101	473 7001 048	2.6X8 CBTS (S)-Z		4	
	103	473 7002 018	3X8 CBTS (S)-Z		20	
	104	473 7003 017	3X8 CFTS (S)-B		2	
	106	473 7015 005	3X6 CBTS(S)-B		28	
	107	473 7500 044	3X8 CBTS (P)-B	for E3,JP	20	
	107	473 7500 044	3X8 CBTS (P)-B	for E2	22	
★	110	473 7512 003	3X8 CFTS (P)-B	for JP	2	
	113	477 0263 005	3P. SWELLING SCREW	for Black model	10	
	113	477 0263 018	3P.SWELLING SCREW	for Gold model	10	
	114	-	SPECIAL SCREW	Attachment for D connector	2	
	115	-	9 SP NUT	Attachment for Rotary switch		

EXPLODED VIEW OF DVD MECHANISM

Parts List


14
26
3
26
8
2
62
12
15
60
60
61
61
21
21
6
5
1
70
71
7
24
11
24
23
24
54
24
24
68
9
10
16
17
4
25
18
20
19
64
22
46
47
47
32
31
30
32
63
44
38
43
33
34
37
39
28
42
43
40
29
35
50
53
50
36
52
23
27
52
51
51
49
23
49
49
48
27B
49
27A
41

PARTS LIST OF DVD MECHANISM UNIT

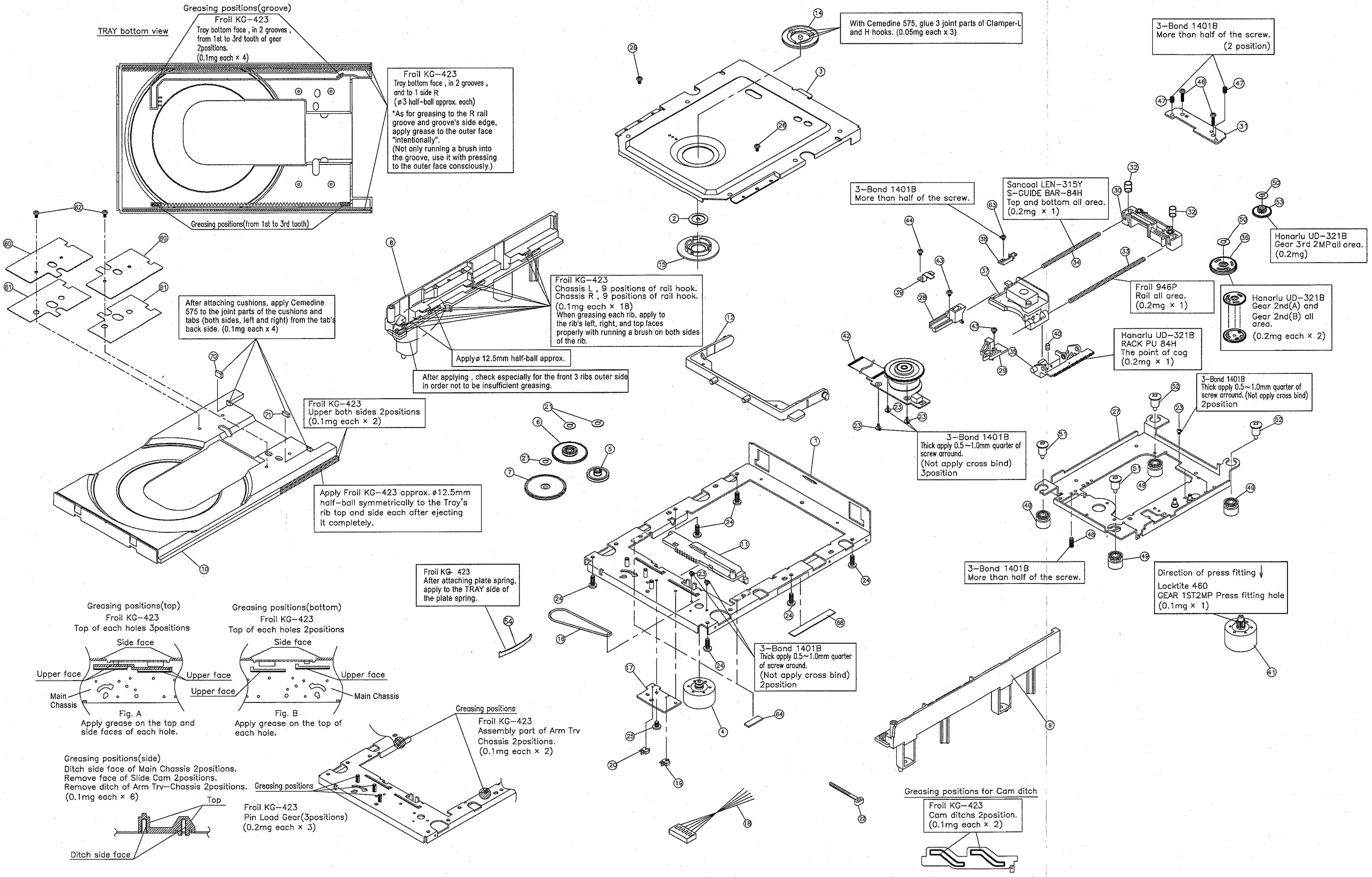
3370118001 DVD MECHA (TD-5HP-D3)

Note : The symbols in the column "Remarks" indicate the following destinations.
E3 : U.S.A. & Canada model
E2 : Europe model
JP : Japan model

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
1	9KC 1A01 7	MAIN CHASSIS ASS'Y		1	
2	9KA 7P08 5	CLAMPER BRACKET		1	
3	9KA 2P84 1	GUIDE CLAMP BRACKET		1	*
4	9KC 2A00 3	LOADING MOTOR ASS'Y		1	
5	9KC 2G02 9	LOADING GEAR		1	
6	9KB 9G03 0	LOADING GEAR 2ND		1	
7	9KB 9G03 1	LOADING GEAR 3RD		1	
8	9KA 2G41 7	SUB CHASSIS-L		1	
9	9KA 2G41 8	SUB CHASSIS-R		1	
10	9KA 2G53 2	TRAY		1	
11	9KC 1G00 3	SLIDE-CAM		1	
12	9KC 1G00 4	TRAVERSE ARM		1	
14	9KA 7G20 2	CLAMPER H		1	
15	9KA 7G20 3	CLAMPER L		1	
16	9KB 9G01 5	LOADING BELT		1	
17	9KC 1P01 4	SWITCH P.W.B.		1	
18	9KC 2G04 3	5P PH WIRE		1	
19	9KS 01W2 04	SWITCH ESE22MH21		1	
20	9KS 01W2 05	SWITCH ESE22MH23		1	
21	9KP 26C6 25	POLY.SLIT WASHER 2.6X6X0.25C		3	
22	445 8004 007	WIRE CLAMPER		1	
23	9KS 17N0 22	PRECISION SCREW 1.7X2.2 TYPE3		2	
24	9KB 26BK 06	SCREW 2.6X6 CBTS(B)-Z		6	
25	9KS 20TK 33	PRECISION SCREW 2X3(S) TYPE3		1	
26	9KB 20PK 06	SCREW 2X6 CBTS(P)-Z		2	
27A	9KC 2A06 3B	TRAVERSE MECHA (FEED) ASS'Y	Assembled part	1	
27B	9KC 2A06 4B	TRAVERSE MECHA ASS'Y	Assembled part	1	
23	-	PRECISION SCREW 1.7X2.2 TYPE3		3	
27	-	PU CHASSIS ASS'Y		1	
28	-	SHAFT HOLDER L		1	
29	-	SHAFT HOLDER R		1	
30	-	SHAFT TILT BASE		1	
31	-	SHAFT TILT PLATE		1	
32	-	TILT SPRING		2	
33	-	MAIN SHAFT		1	
34	-	SUB SHAFT		1	
35	-	PU RACK GEAR		1	
37	-	PICK UP HOP-1200R		1	
38	-	PU SPRING		1	
39	-	SHAFT SPRING		1	
40	-	RACK GEAR SPRING		1	
42	-	T/T MOTOR ASS'Y		1	
43	-	SCREW 2.6X6 CBTS(S)-Z		2	
44	-	SCREW 2.6X4 CBTS(S)-Z		1	
46	-	SCREW 2.6X15 CFTS(S)-Z		2	
47	-	SCREW 3X4 BSS		2	
48	-	SCREW 3X8 BSS (A)		1	
63	-	PRECISION SCREW 1.7X5 TYPE3		1	
23	-	PRECISION SCREW 1.7X2.2 TYPE3		2	
36	-	FEED GEAR 2ND ASS'Y		1	
41	-	FEED MOTOR ASS'Y		1	
50	-	POLY.SLIT WASHER 2.1X4X0.25C		2	
53	-	FEED GEAR 3RD		1	
49	9KC 1G04 3	DAMPER		4	

Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
51	-	SPECIAL SCREW (FRONT)		2	
52	-	SPECIAL SCREW (REAR)		2	
54	9KB 7P02 4	TRAY-SPRING-VXF		1	
60	9KC 2P03 1	PLATE-RE-2HPC		2	
61	9KC 2P03 2	WF-PLATE-RE-2HPC		2	
62	9KS 20P1 04	PRECISION SCREW 2X4(P) TYPE1		2	
64	9KC 1G04 2	RUBBER CUSHION		2	
68	-	TAPE W10X45 (NITTO NO.156)		1	
70	9KC 2G07 6	CUSHION L	6X3Xt4	1	
71	9KC 2G07 7	CUSHION R	6X3Xt2	1	

POINTS OF GREASING



Greasing positions(groove)
Froil KG–423
Tray bottom face , in 2 grooves , from 1st to 3rd tooth of gear 2positions.
(0.1mg each × 4)

Greasing positions(from 1st to 3rd tooth)

Froil KG–423
Tray bottom face , in 2 grooves , and to 1 side R
(ø3 half–ball approx. each)
*As for greasing to the R rail groove and groove's side edge, apply grease to the outer face "intentionally".
(Not only running a brush into the groove, use it with pressing to the outer face consciously.)

After attaching cushions, apply Cemedine 575 to the joint parts of the cushions and tabs (both sides, left and right) from the tab's back side. (0.1mg each x 4)

Froil KG–423
Chassis L , 9 positions of rail hook.
Chassis R , 9 positions of rail hook.
(0.1mg each × 18)
When greasing each rib, apply to the rib's left, right, and top faces properly with running a brush on both sides of the rib.

Applyø 12.5mm half-ball approx.

After applying , check especially for the front 3 ribs outer side in order not to be insufficient greasing.

Froil KG–423
Upper both sides 2positions
(0.1mg each × 2)

Apply Froil KG–423 approx. ø12.5mm half–ball symmetrically to the Tray's rib top and side each after ejecting it completely.

Froil KG- 423
After attaching plate spring, apply to the TRAY side of the plate spring.

Greasing positions(top)
Froil KG–423
Top of each holes 3positions

Fig. A
Apply grease on the top and side faces of each hole.

Greasing positions(bottom)
Froil KG–423
Top of each holes 2positions

Fig. B
Apply grease on the top of each hole.

Greasing positions(side)
Ditch side face of Main Chassis 2positions.
Remove face of Slide Cam 2positions.
Remove ditch of Arm Trv–Chassis 2positions.
(0.1mg each × 6)

Greasing positions
Froil KG–423
Assembly part of Arm Trv Chassis 2positions.
(0.1mg each × 2)

Greasing positions
Froil KG–423
Pin Load Gear(3positions)
(0.2mg each × 3)

With Cemedine 575, glue 3 joint parts of Clamper-L and H hooks. (0.05mg each x 3)

3–Bond 1401B
More than half of the screw.
(2 position)

3–Bond 1401B
More than half of the screw.

Sancoal LEN–315Y
S–GUIDE BAR–84H
Top and bottom all area.
(0.2mg × 1)

Froil 946P
Rail all area.
(0.2mg × 1)

Hanarlu UD–321B
Gear 3rd 2MPall area.
(0.2mg)

Hanarlu UD–321B
Gear 2nd(A) and
Gear 2nd(B) all area.
(0.2mg each × 2)

Hanarlu UD–321B
RACK PU 84H
The point of cog
(0.2mg × 1)

3–Bond 1401B
Thick apply 0.5~1.0mm quarter of screw arround. (Not apply cross bind)
2position

3–Bond 1401B
Thick apply 0.5~1.0mm quarter of screw arround.
(Not apply cross bind)
3position

3–Bond 1401B
Thick apply 0.5~1.0mm quarter of screw around.
(Not apply cross bind)
2position

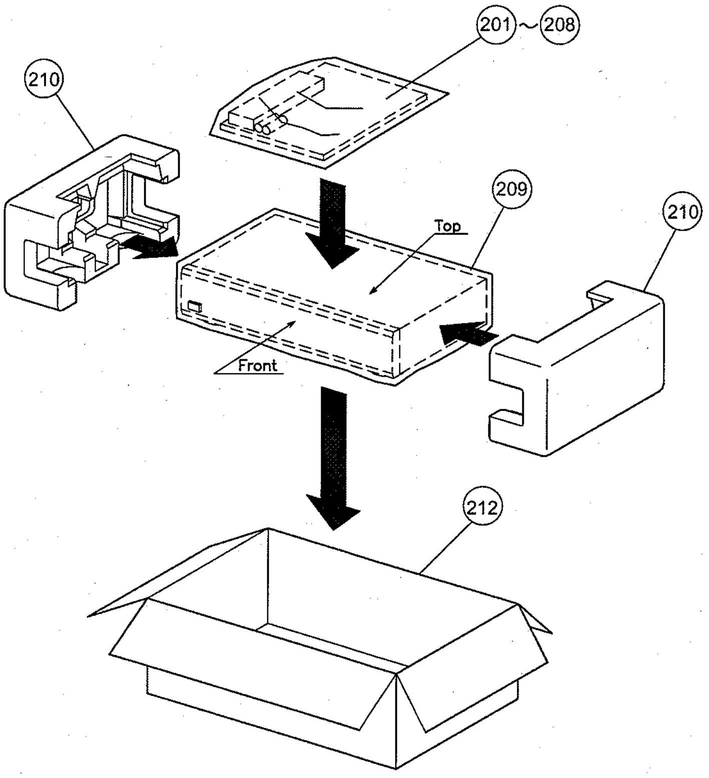
3–Bond 1401B
More than half of the screw.

Direction of press fitting ↓
Locktite 460
GEAR 1ST2MP Press fitting hole
(0.1mg × 1)

Greasing positions for Cam ditch
Froil KG–423
Cam ditchs 2position.
(0.1mg each × 2)

PACKING VIEW

梱包図

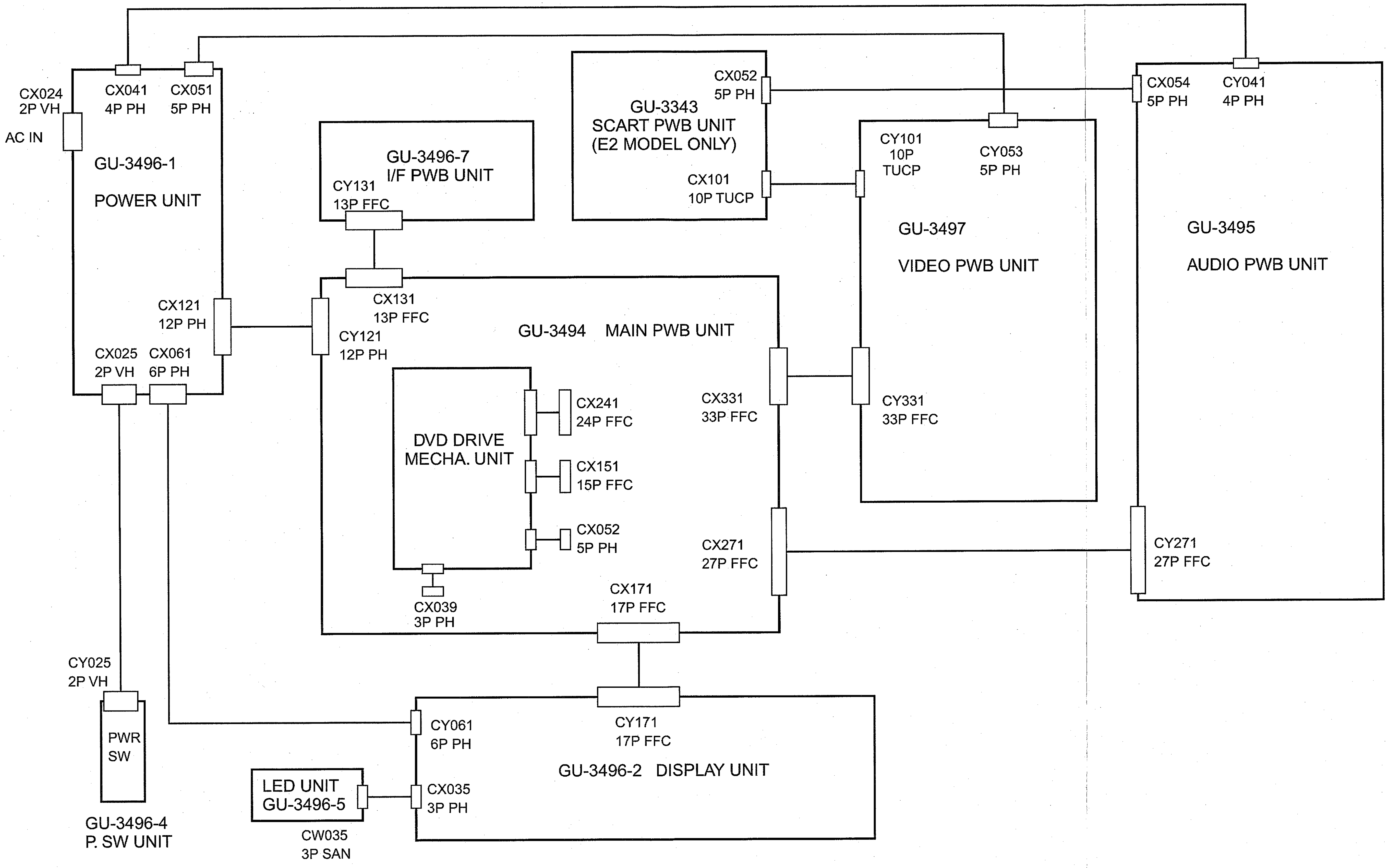


PARTS LIST OF PACKING & ACCESSORIES

Note : The symbols in the column "Remarks" indicate the following destinations.
E3 : U.S.A. & Canada model
E2 : Europe model
JP : Japan model

	Ref. No.	Part No.	Part Name	Remarks	Q'ty	New
	201	505 0038 043	POLY COVER		1	
	202	511 3994 008	INST. MANUAL	for E3	1	*
	202	511 4008 003	INST. MANUAL(8)	for E2	1	*
	202	511 4007 004	INST. MANUAL(DOM)	for JP	1	*
	204	515 0921 209	S.S.LIST(EX)	for E3,E2	1	
	204	515 0918 005	SERVICE STATION LIST	for JP	1	
⚠	205	206 2202 006	AC CORD SET (E3)	for E3	1	
⚠	205	206 2203 005	AC CORD SET (E2)	for E2	1	
⚠	205	206 2213 008	AC CORD SET	for JP	1	
	206	203 5224 008	3P PIN CORD		1	
	207	399 0860 001	REMOTE CONTROLLER RC-934		1	*
	208	-	BATTERY(UM-3)ASS'Y		1	
	209	505 0312 028	CABINET COVER		1	
	210	503 1444 009	CUSHION		2	
	212	501 2172 031	CARTON CASE	for E3,E2	1	*
	212	501 2172 044	CARTON CASE	for JP	1	*
★	213	-	CONT.CARD(L)SUB ASS'Y	for E3,E2	1	
★	214	-	UPC LABEL	for E3	1	*
★	214	-	E2 POS LABEL	for E2 Black model	1	*
★	214	-	E2 POS LABEL	for E2 Gold model	1	*
★	214	517 1477 004	POS LABEL	for JP	1	*
★	215	513 3579 005	REGION LABEL(NO.1)	for E3	2	
★	215	513 3579 018	REGION LABEL(NO.2)	for E2,JP	2	
★	217	513 9111 001	COLOR LABEL (GOLD)	for E2 Gold model	2	
★	219	515 0944 008	WARRANTY (HOME)	for E3	1	
★	219	515 0919 004	GUARANTEE CARD(S)	for JP	1	

WIRING DIAGRAM


CX024
2P VH
AC IN
CX041
4P PH
CX051
5P PH
GU-3496-1
POWER UNIT
CX121
12P PH
CX025
2P VH
CX061
6P PH
GU-3496-7
I/F PWB UNIT
CY131
13P FFC
GU-3343
SCART PWB UNIT
(E2 MODEL ONLY)
CX052
5P PH
CX101
10P TUCP
CY101
10P
TUCP
CY053
5P PH
GU-3497
VIDEO PWB UNIT
CY331
33P FFC
CX054
5P PH
CY041
4P PH
GU-3495
AUDIO PWB UNIT
CY271
27P FFC
CX131
13P FFC
CY121
12P PH
GU-3494 MAIN PWB UNIT
DVD DRIVE
MECHA. UNIT
CX241
24P FFC
CX151
15P FFC
CX052
5P PH
CX331
33P FFC
CX271
27P FFC
CX039
3P PH
CX171
17P FFC
CY025
2P VH
PWR
SW
GU-3496-4
P. SW UNIT
CY061
6P PH
CY171
17P FFC
GU-3496-2 DISPLAY UNIT
LED UNIT
GU-3496-5
CX035
3P PH
CW035
3P SAN

MEASURING METHOD AND WAVEFORMS

To check the waveforms on the Main P.W.B., the GND (–) probe of the oscilloscope to "Vref" point.

NOTES

Measuring Disc: DVD/DVDT-S01 or TDV-520A
CD/TCD-784

(It is better to use wires for extending between the probe and test points.)

- When watching the HF waveform, use the extending wire as short as possible.
- When HF waveform is noisy or cannot discriminate the eye-pattern, replace the Traverse Unit after measuring the lop.
- ① ~ ⑰ points have the certain test points shown below.

各部の波形と測定方法

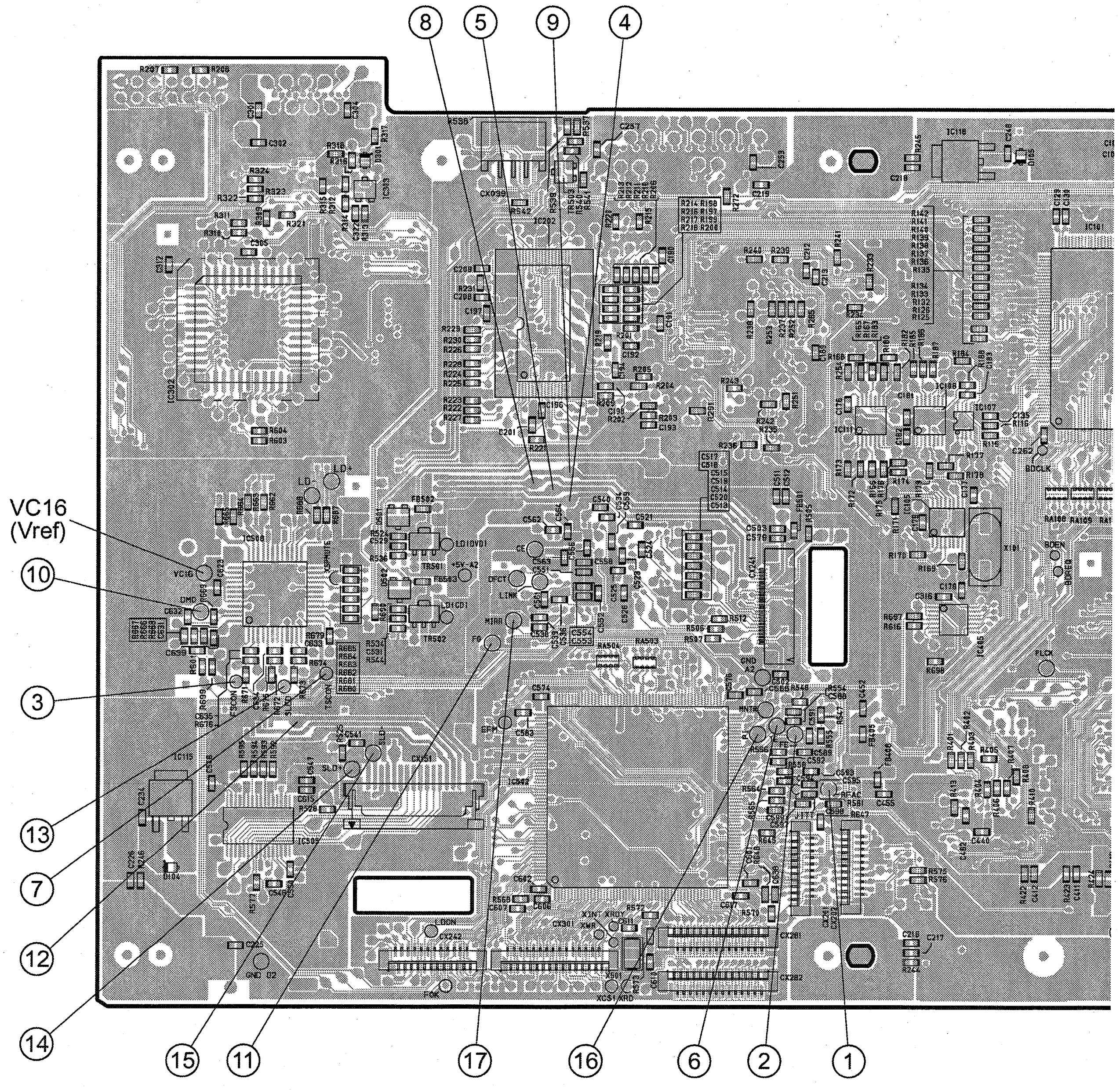
メイン基板の波形チェックを行うためにはオシロスコープの GND(–) プローブを "Vref" ポイントに接続します。

注　意

測定ディスク： DVD/DVDT-S01 or TDV-520A
CD/TCD-784

（テストポイントとプローブ間に延長ワイヤを使用するのがより良い方法です。）

- ＨＦ 波形を観測する場合、できるだけ短い延長ワイヤを使用してください。
- ＨＦ 波形がノイズで不明瞭、またはアイパターンが識別不能の場合は lop 測定後にトラバースユニットを交換してください。
- ポイント①〜⑰は、下図のように特定テストポイント付きです。

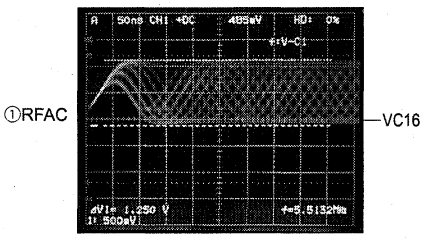


GU-3494 Main P.W.B. Unit Foil Side

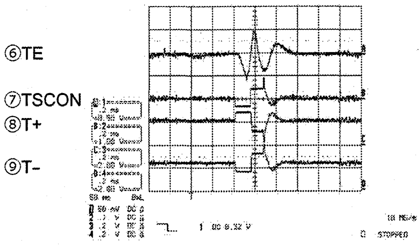
WAVEFORMS

● GU-3494 MAIN P.W.B.

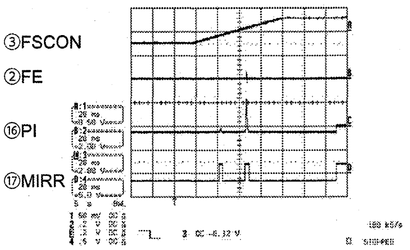
DVD PLAY Disc: TDV-520A



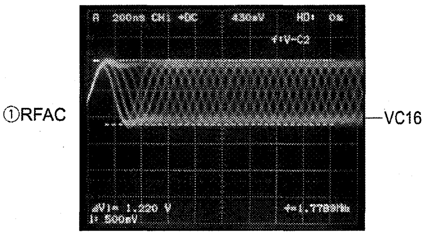
CD PLAY



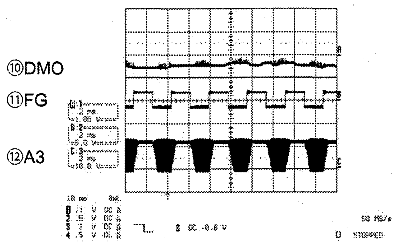
DISC DETECT (CD)



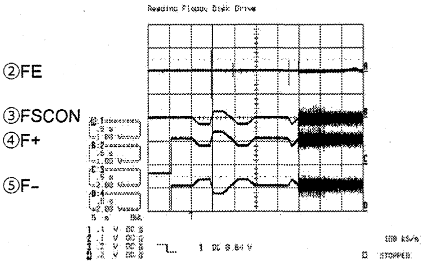
CD PLAY Disc: TCD-784



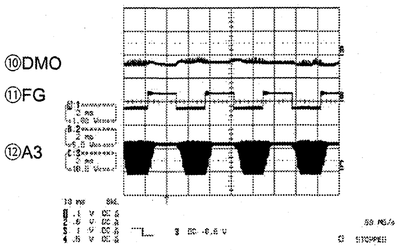
DVD PLAY (INNER)



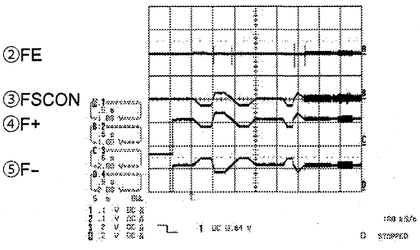
DVD LOADING ⟶ PLAY



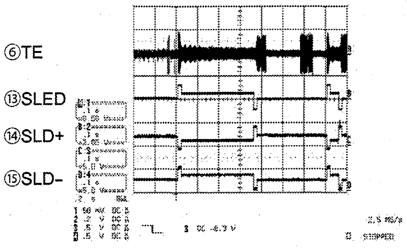
CD PLAY (INNER)



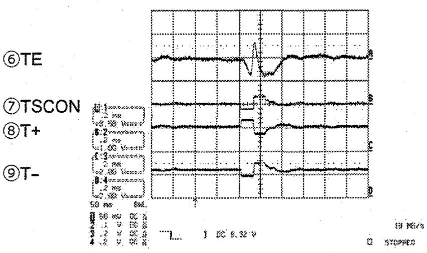
CD LOADING ⟶ PLAY



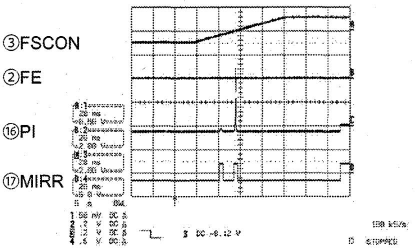
SEARCH TO OUTER CHAPTER (INNER⟶ OUTER)



DVD PLAY

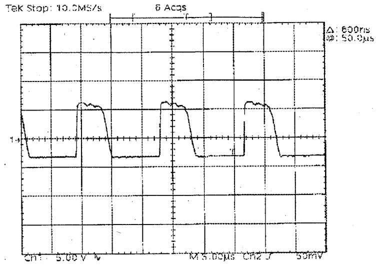


DISC DETECT (DVD)

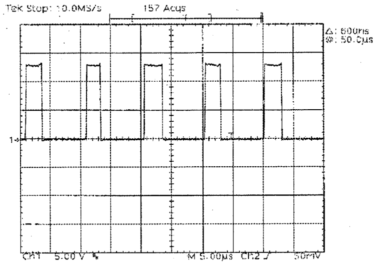


● GU-3496-1 POWER P.W.B.

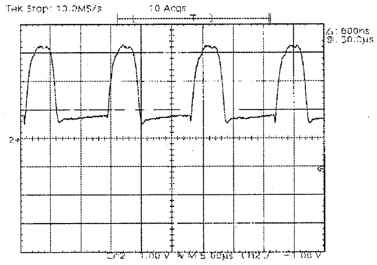
Ⓐ



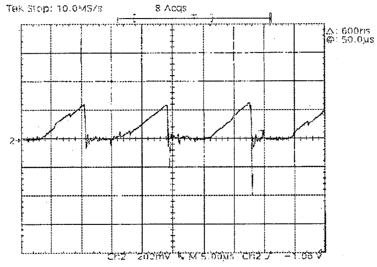
Ⓑ



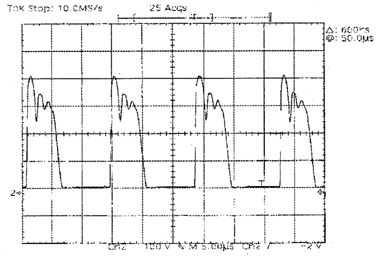
Ⓒ



Ⓓ

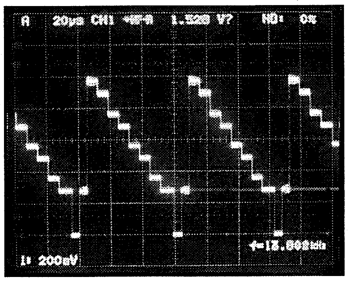


Ⓔ

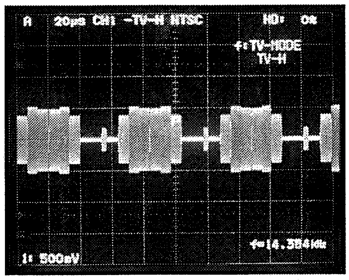


● GU-3497 VIDEO P.W.B.

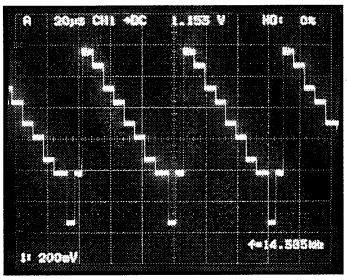
V1



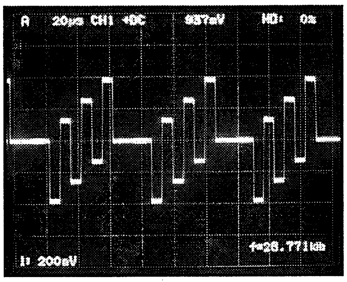
V2



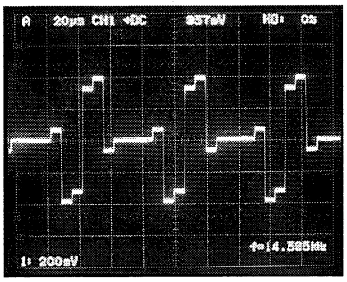
V3



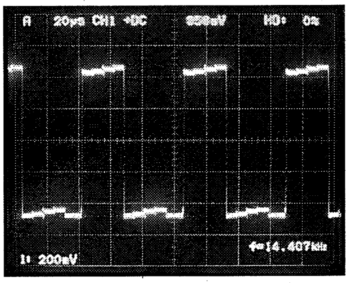
V4



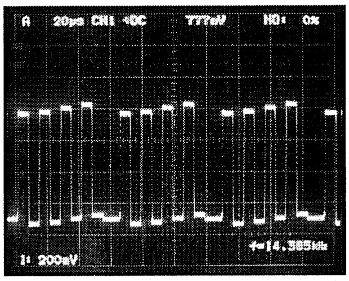
V5



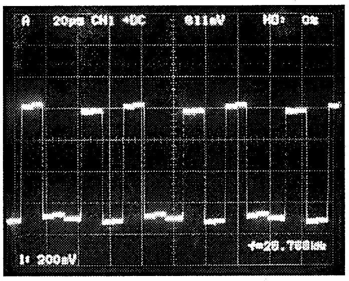
V6



V7



V8



NOTE FOR SCHEMATIC DIAGRAM

WARNING:
Parts marked with this symbol ⚠ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is less than 460 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTICE:
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM
M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD.
P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

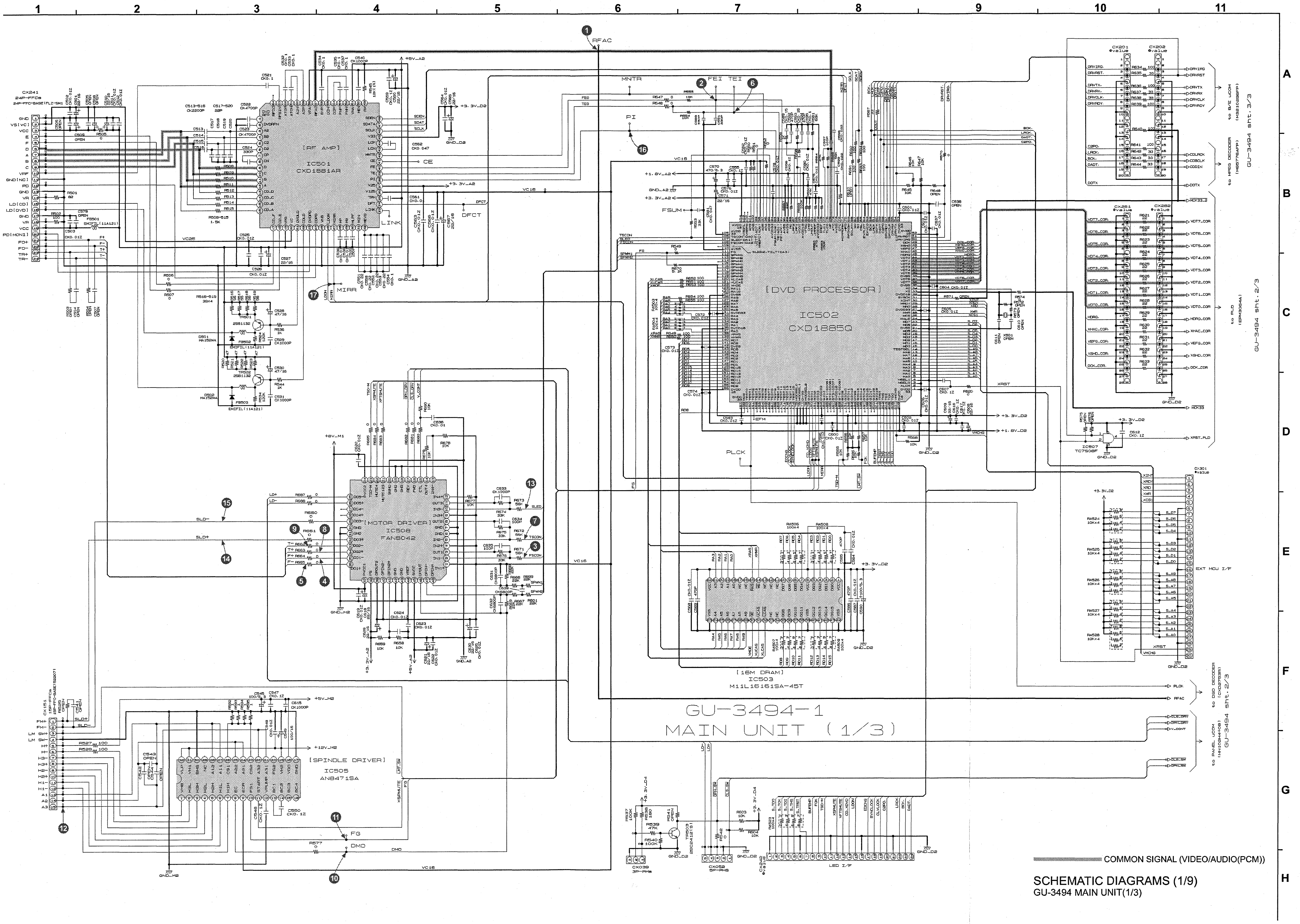
配線図について

⚠印の部品は安全を維持するために重要な部品です。従って交換時は必ず指定の部品を使用してください。

注)

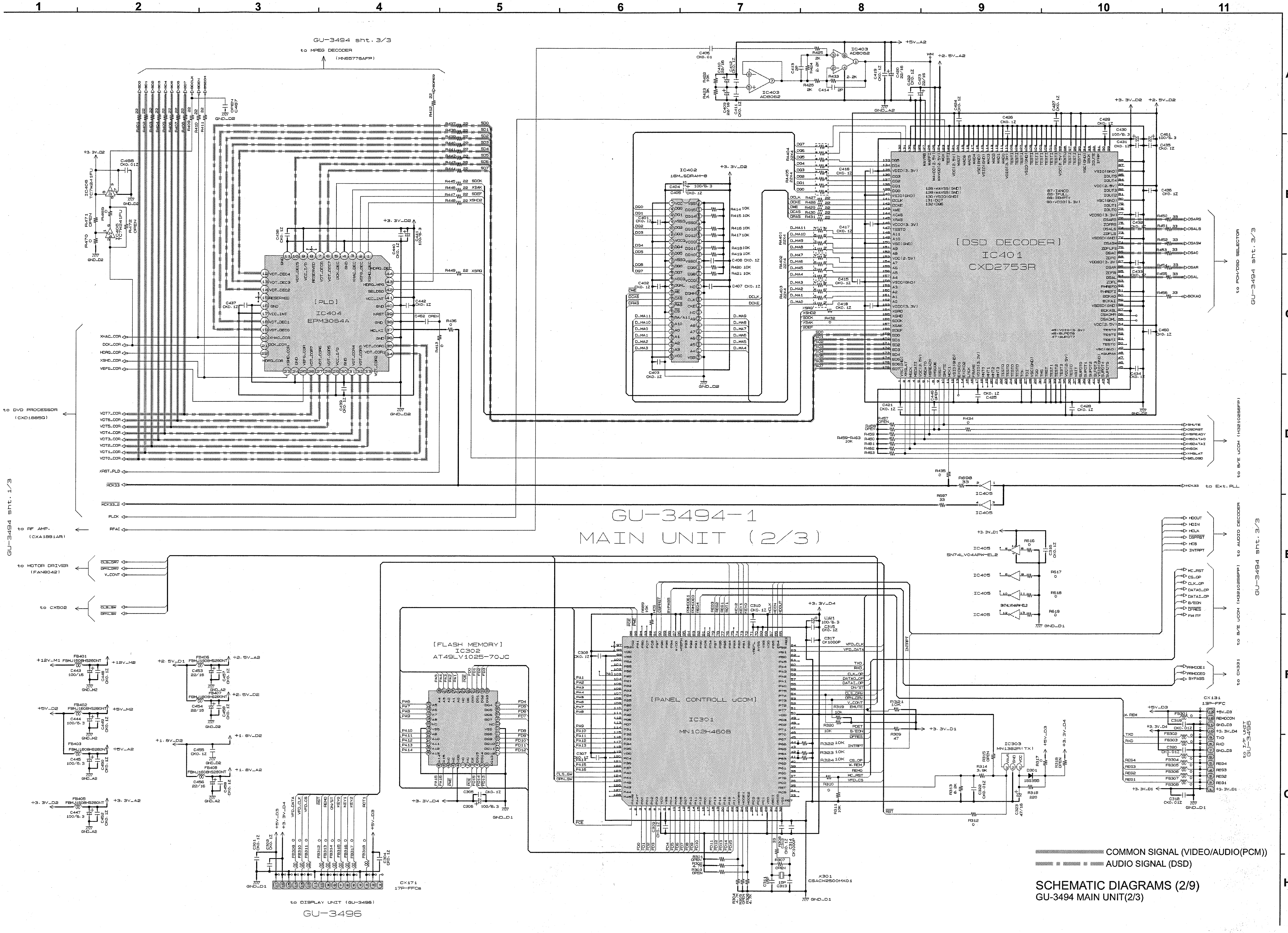
(1) 指定なき抵抗値はΩ、kはkΩ、MはMΩを示す。
(2) 指定なきコンデンサーの値はμF、pはpFを示す。
(3) 各部の電圧は無信号の値を示す。
(4) この配線図は基本配線図です。改良等のため変更することがありますのでご了承ください。

SCHEMATIC DIAGRAMS (1/9)


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
RFAC
MNTR
FEI TEI
PI
PLCK
CX241
24P-FFC
[RF AMP]
IC501
CXD1881AR
CE
DFCT
LINK
MIRR
VC26
VC16
+5V_A2
+3.3V_D2
+3.3V_A2
+1.8V_A2
GND_A2
GND_D2
FSUM
TR501
2SB1132
TR502
2SB1132
D501
MA152WA
D502
MA152WA
FB502
EMIFIL(11A121)
FB503
[DVD PROCESSOR]
IC502
CXD1885Q
[MOTOR DRIVER]
IC508
FAN8042
+8V_M1
SLD-
SLD+
SLED
TSCON
FSCON
SPMH1
SPMH0
[16M DRAM]
IC503
M11L16161SA-45T
GU-3494-1
MAIN UNIT (1/3)
CX151
15P-FFC
[SPINDLE DRIVER]
IC505
AN8471SA
+5V_M2
+12V_M2
GND_M2
FG
DMO
CX039
3P-PH
CX052
5P-PH
TR503
LED I/F
CX201
CX202
to B/E uCOM
to MPEG DECODER
GU-3494 Sht.3/3
CX261
CX262
to FLD
GU-3494 Sht.2/3
IC507
TC7S08F
XRST_FLD
CX301
EXT MCU I/F
RA524
RA525
RA526
RA527
RA528
to DSD DECODER
to PANEL uCOM
GU-3494 Sht.2/3
PLCK
RFAC
12
13
14
15
16
17

COMMON SIGNAL (VIDEO/AUDIO(PCM))

SCHEMATIC DIAGRAMS (1/9)
GU-3494 MAIN UNIT(1/3)

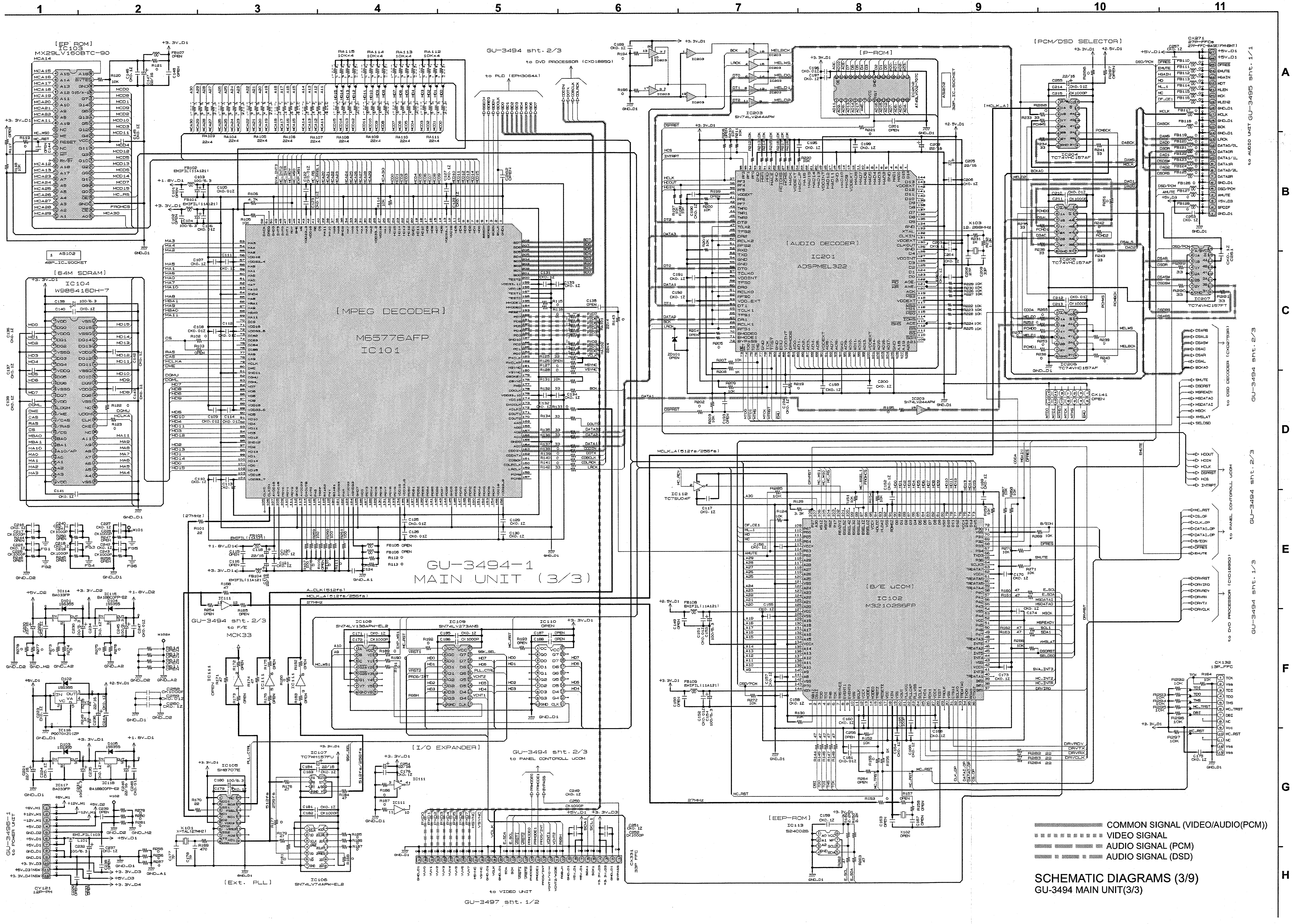

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
GU-3494 sht. 3/3
to MPEG DECODER
(MN65775AFP)
[PLD]
IC404
EPM3064A
IC402
16M_SDRAM-8
IC403
AD8062
[DSD DECODER]
IC401
CXD2753R
to PCM/DSD SELECTOR
GU-3494 sht. 3/3
to DVD PROCESSOR
(CXD1885Q)
to B/E uCOM (M32102S6FP)
MCK33 to Ext.PLL
GU-3494-1
MAIN UNIT (2/3)
GU-3494 sht. 1/3
to RF AMP.
(CXA1881AR)
to MOTOR DRIVER
(FAN8042)
to CX502
to AUDIO DECODER
GU-3494 sht. 3/3
to B/E uCOM (M32102S6FP)
to CX331
IC405
SN74LV04APW-EL2
[FLASH MEMORY]
IC302
AT49LV1025-70JC
[PANEL CONTROLL uCOM]
IC301
MN102H460B
IC303
MN1382R(TX)
CX131
13P-FFC
to I/F UNIT
GU-3495
CX171
17P-FFC
to DISPLAY UNIT (GU-3496)
GU-3496
X301
CSACW2500MXD1
+5V_A2
+2.5V_A2
+3.3V_D2
+2.5V_D2
+3.3V_D4
+3.3V_D1
GND_D1
GND_D2
GND_A2
+12V_M1
+12V_M2
+5V_D2
+5V_M2
+5V_A2
+2.5V_D1
+1.8V_D2
+1.8V_A2
+3.3V_A2

▬▬▬ COMMON SIGNAL (VIDEO/AUDIO(PCM))

▬ ▬ ▬ AUDIO SIGNAL (DSD)

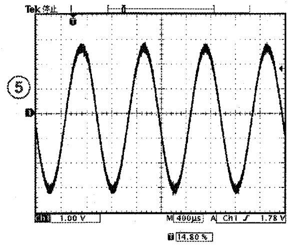
SCHEMATIC DIAGRAMS (2/9)
GU-3494 MAIN UNIT(2/3)

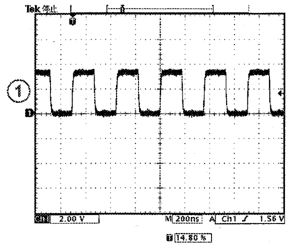
SCHEMATIC DIAGRAMS (3/9)

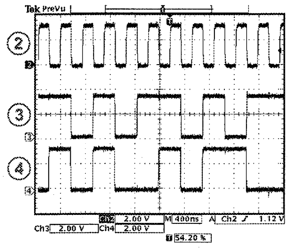

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
[EP ROM]
IC103
MX29LV160BTC-90
AS102
48P_IC_SOCKET
[64M SDRAM]
IC104
W986416DH-7
GU-3494 sht. 2/3
to DVD PROCESSOR (CXD1885Q)
to PLD (EPM3064A)
[MPEG DECODER]
M65776AFP
IC101
[P-ROM]
AS202
32P_IC_SOCKET
IC203
SN74LV244APW
[AUDIO DECODER]
IC201
ADSPMEL322
X103
12.288MHz
[PCM/DSD SELECTOR]
IC204
TC74VHC157AF
IC205
TC74VHC157AF
IC206
TC74VHC157AF
IC207
TC74VHC157FT
CX271
27P-FFC
to AUDIO UNIT GU-3495 sht. 1/1
CX141
OPEN
to DSD DECODER (CXD2753R)
GU-3494 sht. 2/3
to PANEL CONTROLL uCOM
GU-3494 sht. 2/3
to DVD PROCESSOR (CXD1885Q)
GU-3494 sht. 1/3
IC112
TC7SU04F
[B/E uCOM]
IC102
M32102S6FP
GU-3494-1
MAIN UNIT (3/3)
GU-3494 sht. 2/3
to F/E
MCK33
IC108
SN74LV138APW-EL2
IC109
SN74LV273ANS
IC110
OPEN
IC105
SM8707E
IC107
TC7WH157FU
[I/O EXPANDER]
[Ext. PLL]
X101
X-TAL(27MHz)
IC106
SN74LV74APW-EL2
GU-3494 sht. 2/3
to PANEL CONTROLL uCOM
CX331
33P FFC
to VIDEO UNIT
GU-3497 sht. 1/2
[EEP-ROM]
IC113
S24C02B
X102
OPEN
CX132
13P_FFC
IC114
BA033FP
IC115
BA18BC0FP-E2
IC117
BA033FP
IC118
BA18BC0FP-E2
GU-3496-1
to POWER UNIT
CY121
12P-PH

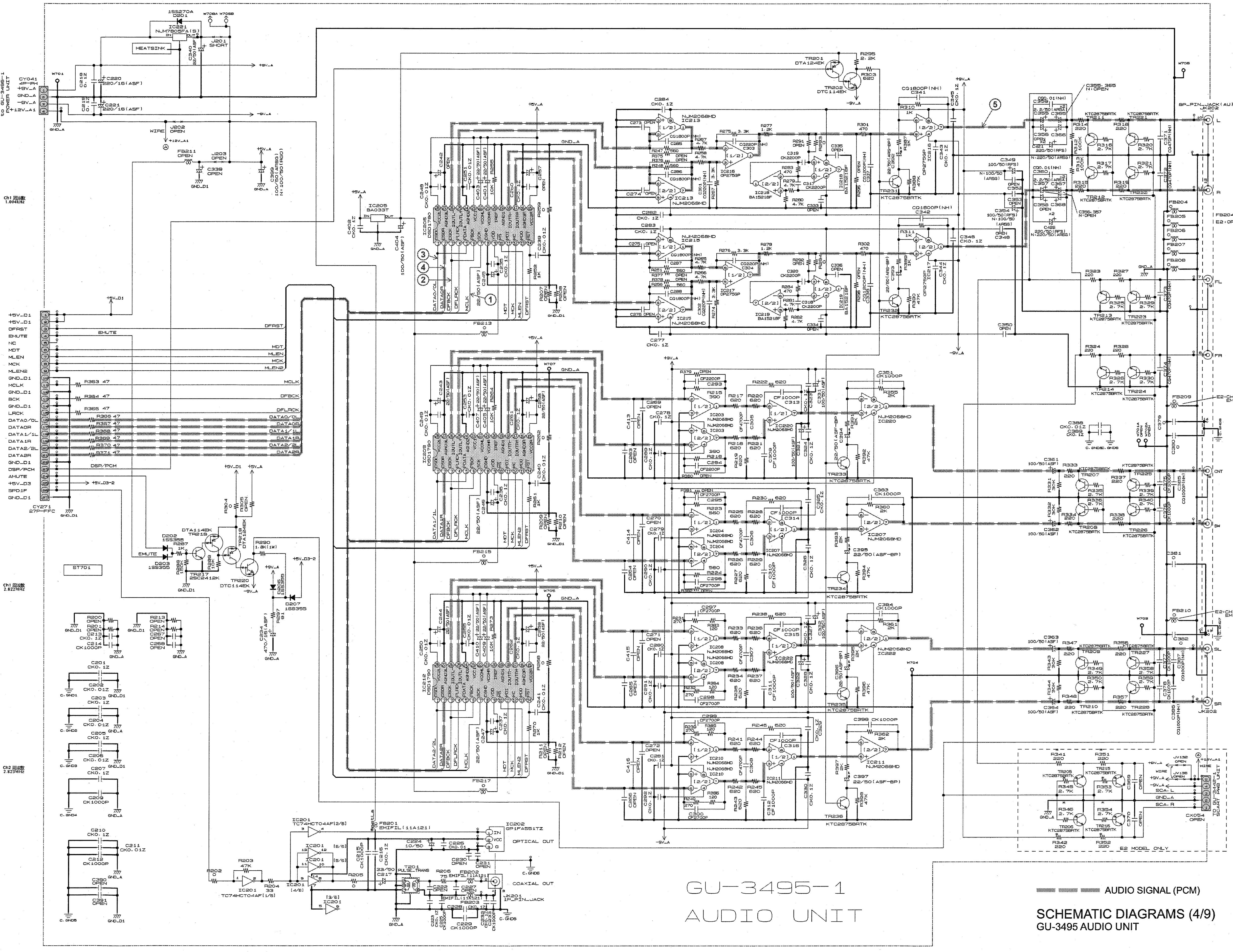
▨ COMMON SIGNAL (VIDEO/AUDIO(PCM))
▨ VIDEO SIGNAL
▨ AUDIO SIGNAL (PCM)
▨ AUDIO SIGNAL (DSD)

SCHEMATIC DIAGRAMS (3/9)
GU-3494 MAIN UNIT(3/3)





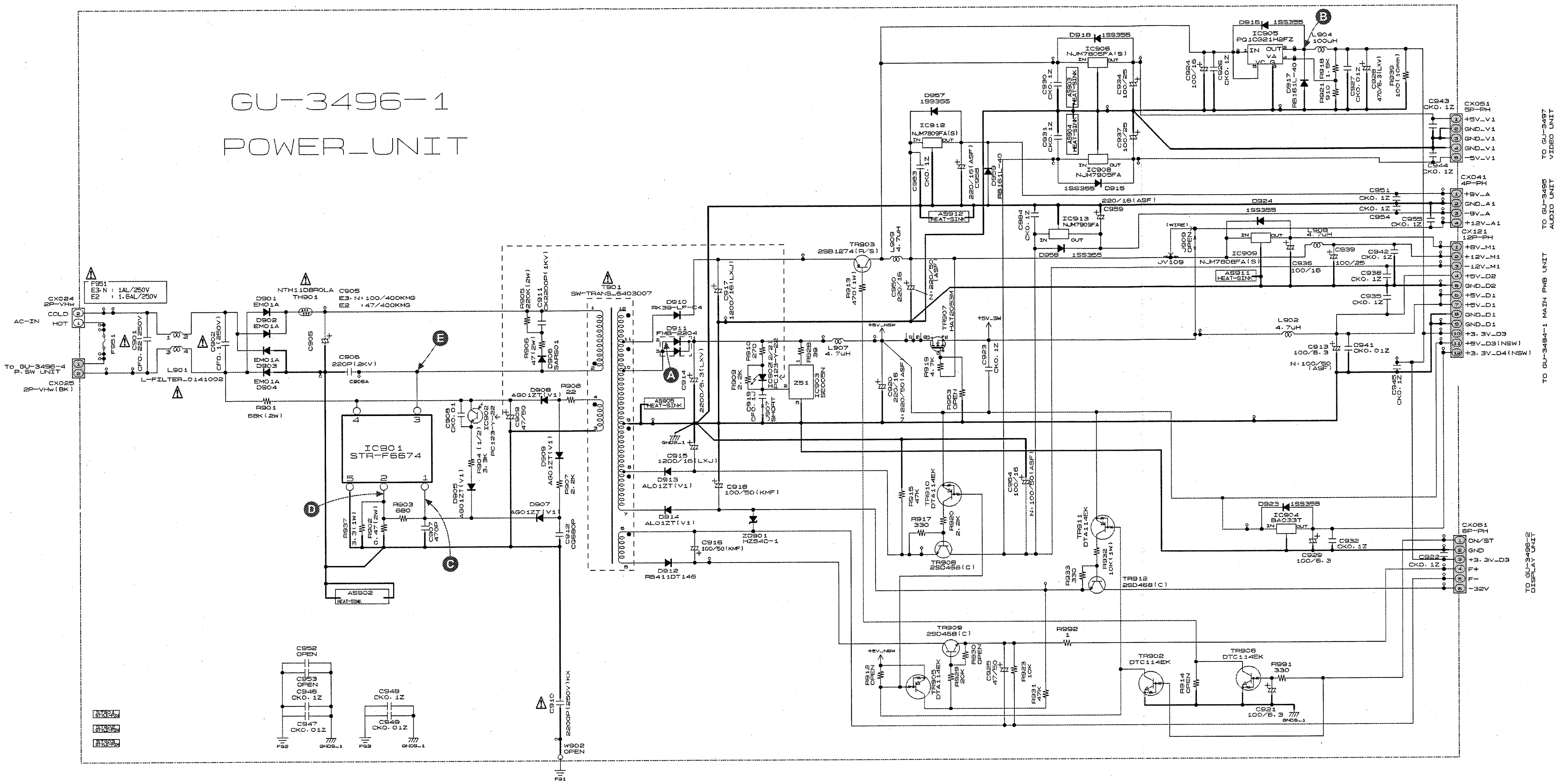


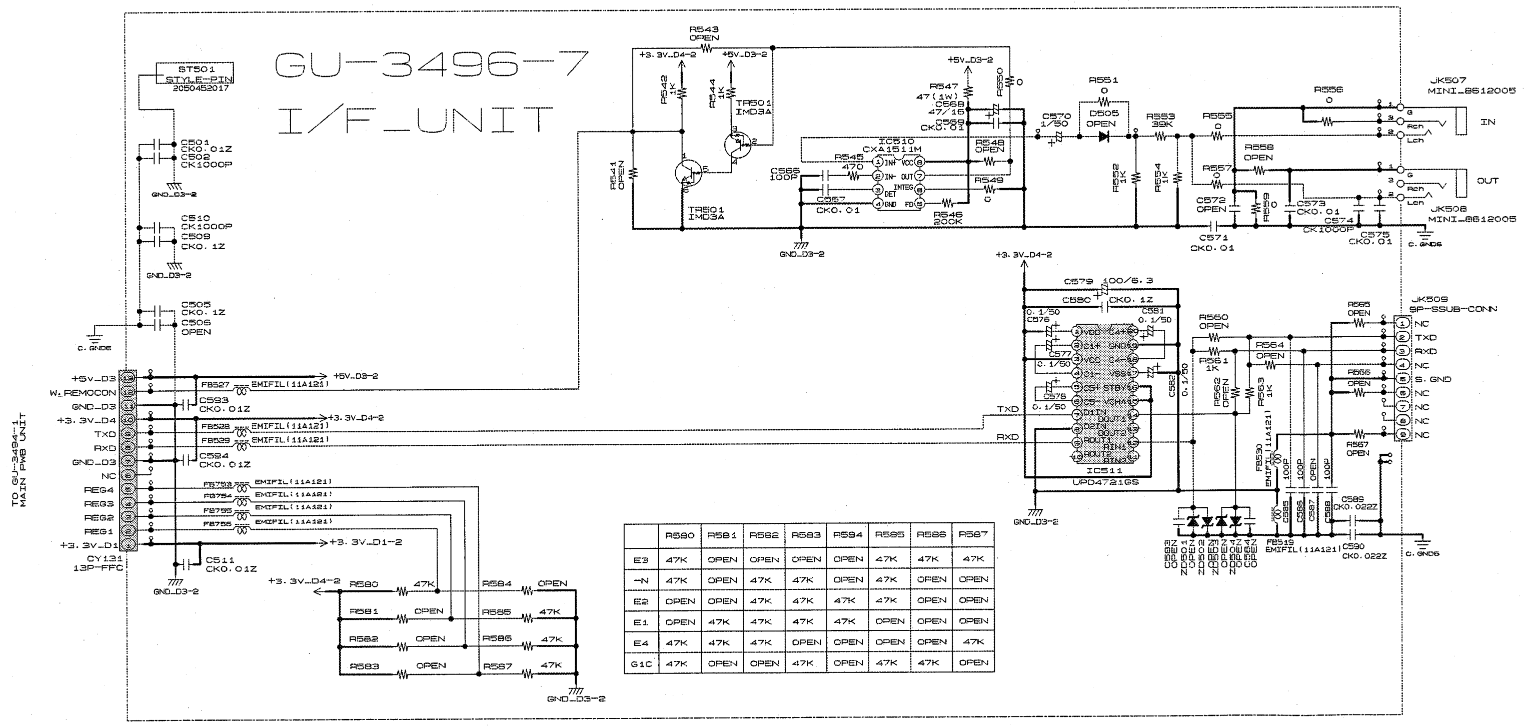

to GU-3496-1 POWER UNIT
CY041
+9V_A
GND_A
-9V_A
+12V_A1
W701
IC221
NJM7805FA(S)
1SS270A
D201
HEATSINK
J201
SHORT
C220
220/16(ASF)
C221
220/16(ASF)
J202
WIRE OPEN
FB211
OPEN
J203
OPEN
C339
OPEN
IC205
BA033T
to GU-3494-1 MAIN PWB UNIT
CY271
27P-FFC
+5V_D1
DFRST
EMUTE
NC
MDT
MLEN
MCK
MLEN2
GND_D1
MCLK
BCK
LRCK
DATA0/0L
DATA0R
DATA1/1L
DATA1R
DATA2/2L
DATA2R
DSP/PCM
AMUTE
+5V_D3
SPDIF
IC206
DSD1790
IC209
DSD1790
IC212
DSD1790
FB213
FB215
FB217
IC213
NJM2068MD
IC215
NJM2068MD
IC216
OP275GP
IC217
OP275GP
IC218
BA15218F
IC219
BA15218F
TR201
DTA124EK
TR202
DTC114EK
TR231
KTC2875BRTK
TR232
KTC2875BRTK
IC203
NJM2068MD
IC220
NJM2068MD
IC204
NJM2068MD
IC207
NJM2068MD
IC208
NJM2068MD
IC222
NJM2068MD
IC210
NJM2068MD
IC211
NJM2068MD
TR233
TR234
TR235
TR236
KTC2875BRTK
TR218
DTA114EK
TR219
DTA124EK
TR217
2SC2412K
TR220
DTC114EK
D202
1SS355
D203
1SS355
D205
1SS355
D207
1SS355
ST701
IC201
TC74HCT04AF
FB201
EMIFIL(11A121)
IC202
GP1FA551TZ
OPTICAL OUT
T201
PULSE_TRANS
FB202
FB203
COAXIAL OUT
JK201
1P_PIN_JACK
8P_PIN_JACK(AU)
JK202
L
R
FL
FR
CNT
SW
SL
SR
FB204-208
E2:OPEN
FB209
FB210
E2:CHIP EMIFIL
C355_365
N:OPEN
C356_357
N:OPEN
TR211
TR221
TR212
TR222
TR213
TR223
TR214
TR224
TR207
TR225
TR208
TR226
TR209
TR227
TR210
TR228
TR205
TR215
TR206
TR216
JV132
CX054
to GU-3492-1 SCART PWB UNIT
+9V_A
-9V_A
GND_A
SCA.L
SCA.R
E2 MODEL ONLY
W704
W705
W706
W707
W708
W709
GU-3495-1
AUDIO UNIT

▨ AUDIO SIGNAL (PCM)

SCHEMATIC DIAGRAMS (4/9)

GU-3495 AUDIO UNIT

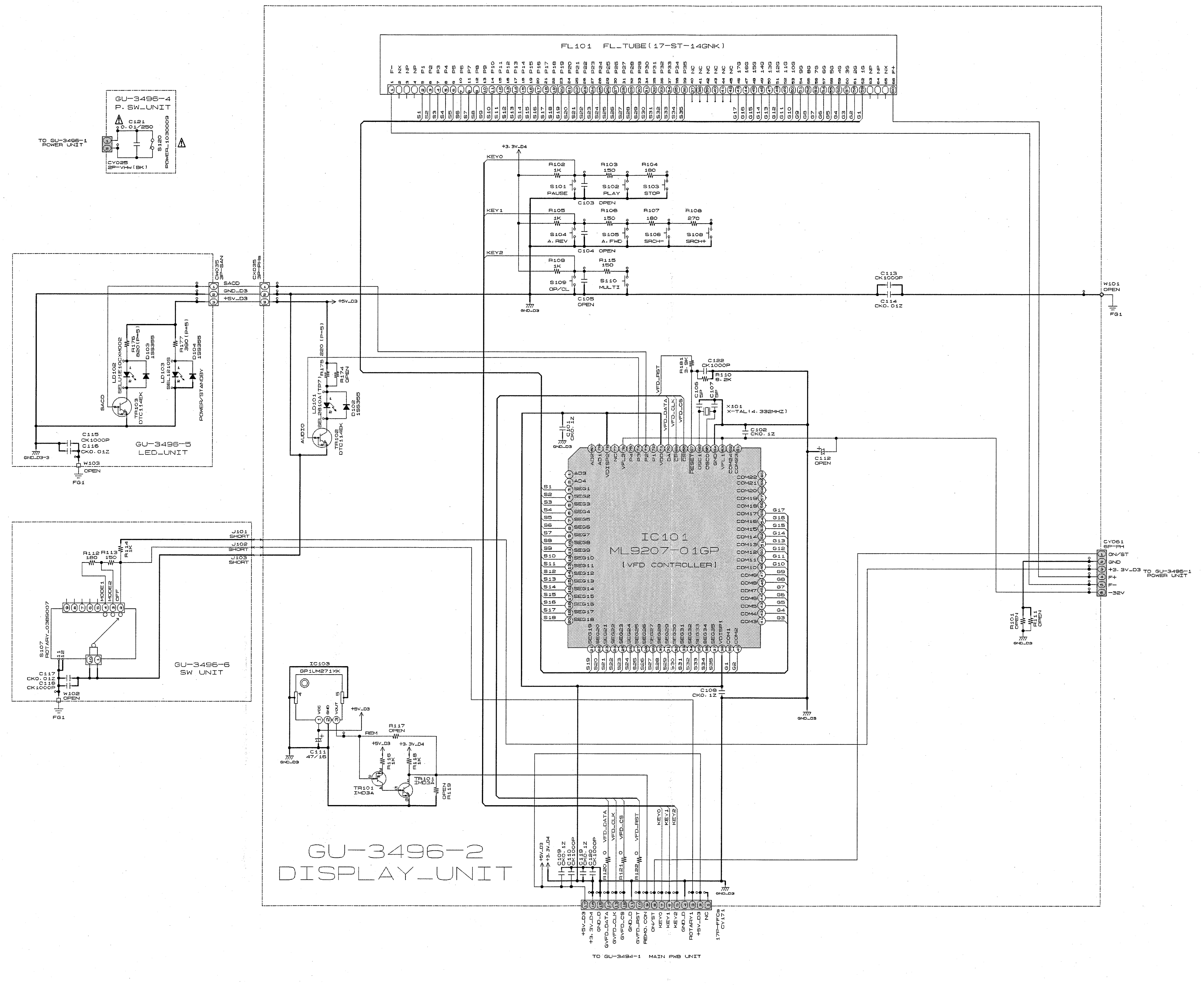

GU-3496-1
POWER_UNIT
AC-IN
COLD
HOT
CX024 2P-VHW
CX025 2P-VHW(BK)
To GU-3496-4 P.SW UNIT
F951 E3·N : 1AL/250V E2 : 1.6AL/250V
L901 L-FILTER_0141002
NTH11D8R0LA TH901
C905 E3·N:100/400KMG E2 :47/400KMG
IC901 STR-F6674
T901 SW-TRANS_6403007
R901 68K(2W)
C906 220P(2KV)
IC902 PC123-Y22
IC903 SE003N
TR903 2SB1274(R/S)
IC905 PQ1C021H2FZ
IC906 NJM7805FA(S)
IC908 NJM7905FA
IC912 NJM7809FA(S)
IC913 NJM7909FA
IC909 NJM7808FA(S)
IC904 BA033T
TR911 DTA114EK
TR912 2SD468(C)
TR908 2SD468(C)
TR909 2SD468(C)
TR902 DTC114EK
TR906 DTC114EK
TR910 DTA114EK
CX051 5P-PH
+5V_V1
GND_V1
GND_V1
GND_V1
-5V_V1
TO GU-3497 VIDEO UNIT
CX041 4P-PH
+9V_A
GND_A1
-9V_A
+12V_A1
TO GU-3495 AUDIO UNIT
CX121 12P-PH
+8V_M1
+12V_M1
-12V_M1
+5V_D2
GND_D2
+5V_D1
GND_D1
GND_D1
+3.3V_D3
+5V_D3(NSW)
+3.3V_D4(NSW)
TO GU-3484-1 MAIN PWB UNIT
CX081 8P-PH
ON/ST
GND
+3.3V_D3
F+
F-
-32V
TO GU-3496-2 DISPLAY UNIT
A
B
C
D
E


GU-3496-7
I/F_UNIT
ST501 STYLE-PIN 205052017
IC510 CXA1511M
TR501 IMD3A
IC511 UPD4721GS
JK507 MINI_8612005
IN
OUT
JK508 MINI_8612005
JK509 9P-SSUB-CONN
TXD
RXD
S.GND
NC
CY131 13P-FFC
+5V_D3
W.REMOCON
GND_D3
+3.3V_D4
TXD
RXD
GND_D3
NC
RES4
RES3
RES2
RES1
+3.3V_D1
TO GU-3484-1 MAIN PWB UNIT
R580
R581
R582
R583
R584
R585
R586
R587
GND_D3-2

	R580	R581	R582	R583	R594	R585	R586	R587
E3	47K	OPEN	OPEN	OPEN	OPEN	47K	47K	47K
−N	47K	OPEN	47K	47K	OPEN	47K	OPEN	OPEN
E2	OPEN	OPEN	47K	47K	47K	47K	OPEN	OPEN
E1	OPEN	47K	47K	47K	47K	OPEN	OPEN	OPEN
E4	47K	47K	47K	OPEN	OPEN	OPEN	OPEN	47K
G1C	47K	OPEN	OPEN	47K	OPEN	47K	47K	OPEN

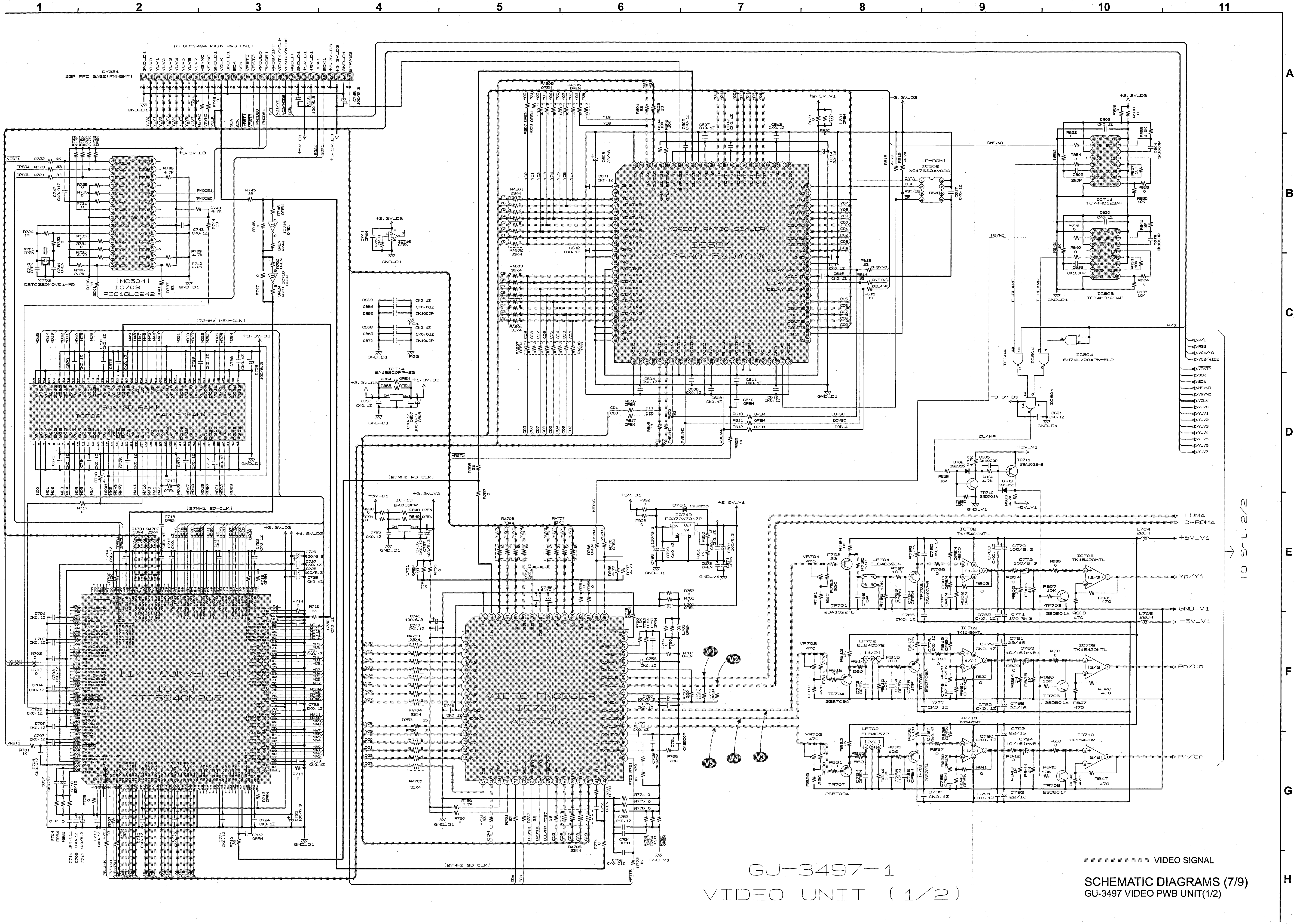
SCHEMATIC DIAGRAMS (5/9)

GU-3496-1 POWER UNIT
GU-3496-7 I/F UNIT


FL101 FL_TUBE(17-ST-14GNK)
F- NX NP NP P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31 P32 P33 P34 P35 NC NC NC NC NC NC 17G 16G 15G 14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G NP NP NX F+
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35
G17 G16 G15 G14 G13 G12 G11 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1
GU-3496-4
P.SW_UNIT
C121
0.01/250
S120
POWER_1030009
TO GU-3496-1
POWER UNIT
CY025
2P-VHW(BK)
+3.3V_D4
KEY0
R102 1K
R103 150
R104 180
S101 PAUSE
S102 PLAY
S103 STOP
C103 OPEN
KEY1
R105 1K
R106 150
R107 180
R108 270
S104 A.REV
S105 A.FWD
S106 SRCH−
S108 SRCH+
C104 OPEN
KEY2
R109 1K
R115 150
S109 OP/CL
S110 MULTI
C105 OPEN
GND_D3
C113 CK1000P
C114 CK0.01Z
W101 OPEN
FG1
CW035 3P-SAN
CX035 3P-PHS
SACD
GND_D3
+5V_D3
R176 820(P=5)
D103 1SS355
R177 390(P=5)
D104 1SS355
LD102 SELU1E10CXM002
LD103 SEL1210S
SACD
TR103 DTC114EK
POWER/STANDBY
C115 CK1000P
C116 CK0.01Z
GND_D3-3
W103 OPEN
FG1
GU-3496-5
LED_UNIT
R175 220(P=5)
R174 OPEN
LD101 SEL2810A(TP7)
D102 1SS355
AUDIO
TR102 DTC114EK
R181 3.9K
C122 CK1000P
R110 8.2K
C106 5P
C107 5P
X101 X-TAL(4.332MHZ)
C102 CK0.1Z
C112 OPEN
C101 CK0.1Z
VFD_RST
VFD_DATA
VFD_CLK
VFD_CS
IC101
ML9207-01GP
(VFD CONTROLLER)
AD3 AD4 SEG1 SEG2 SEG3 SEG4 SEG5 SEG6 SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG14 SEG15 SEG16 SEG17 SEG18
AD2 AD1 VDISP2 NC VFL2 P4 P3 P2 P1 VDD DA CP CS RESET OSC1 OSC0 GND VFL1 COM24 COM23
COM22 COM21 COM20 COM19 COM18 COM17 COM16 COM15 COM14 COM13 COM12 COM11 COM10 COM9 COM8 COM7 COM6 COM5 COM4 COM3
SEG19 SEG20 SEG21 SEG22 SEG23 SEG24 SEG25 SEG26 SEG27 SEG28 SEG29 SEG30 SEG31 SEG32 SEG33 SEG34 SEG35 VDISP1 COM1 COM2
C108 CK0.1Z
GND_D3
CY061 6P-PH
ON/ST
GND
+3.3V_D3
F+
F−
−32V
TO GU-3496-1
POWER UNIT
R101 OPEN
R111 OPEN
GND_D3
J101 SHORT
J102 SHORT
J103 SHORT
R112 180
R113 150
R114 1K
MODE1
MODE2
OFF
S107
ROTARY_0389007
C117 CK0.01Z
C118 CK1000P
W102 OPEN
FG1
GU-3496-6
SW UNIT
IC103
GP1UM271XK
VCC GND VOUT
+5V_D3
C111 47/16
GND_D3
REM
R117 OPEN
+5V_D3
+3.3V_D4
R116 1K
R118 1K
TR101 IMD3A
TR101 IMD3A
OPEN R119
GU-3496-2
DISPLAY_UNIT
+5V_D3
+3.3V_D4
C109 CK0.1Z
C110 CK1000P
C119 CK0.1Z
C120 CK1000P
R120 0
R121 0
R122 0
VFD_DATA
VFD_CLK
VFD_CS
VFD_RST
KEY0
KEY1
KEY2
GND_D3
+5V_D3
+3.3V_D4
GND_D
GVFD_DATA
GVFD_CLK
GVFD_CS
GND_D
GVFD_RST
REMO.CON
ON/ST
KEY0
KEY1
KEY2
GND_D
ROTARY1
+5V_D3
NC
17P-FFCs
CY171
TO GU-3494-1 MAIN PWB UNIT

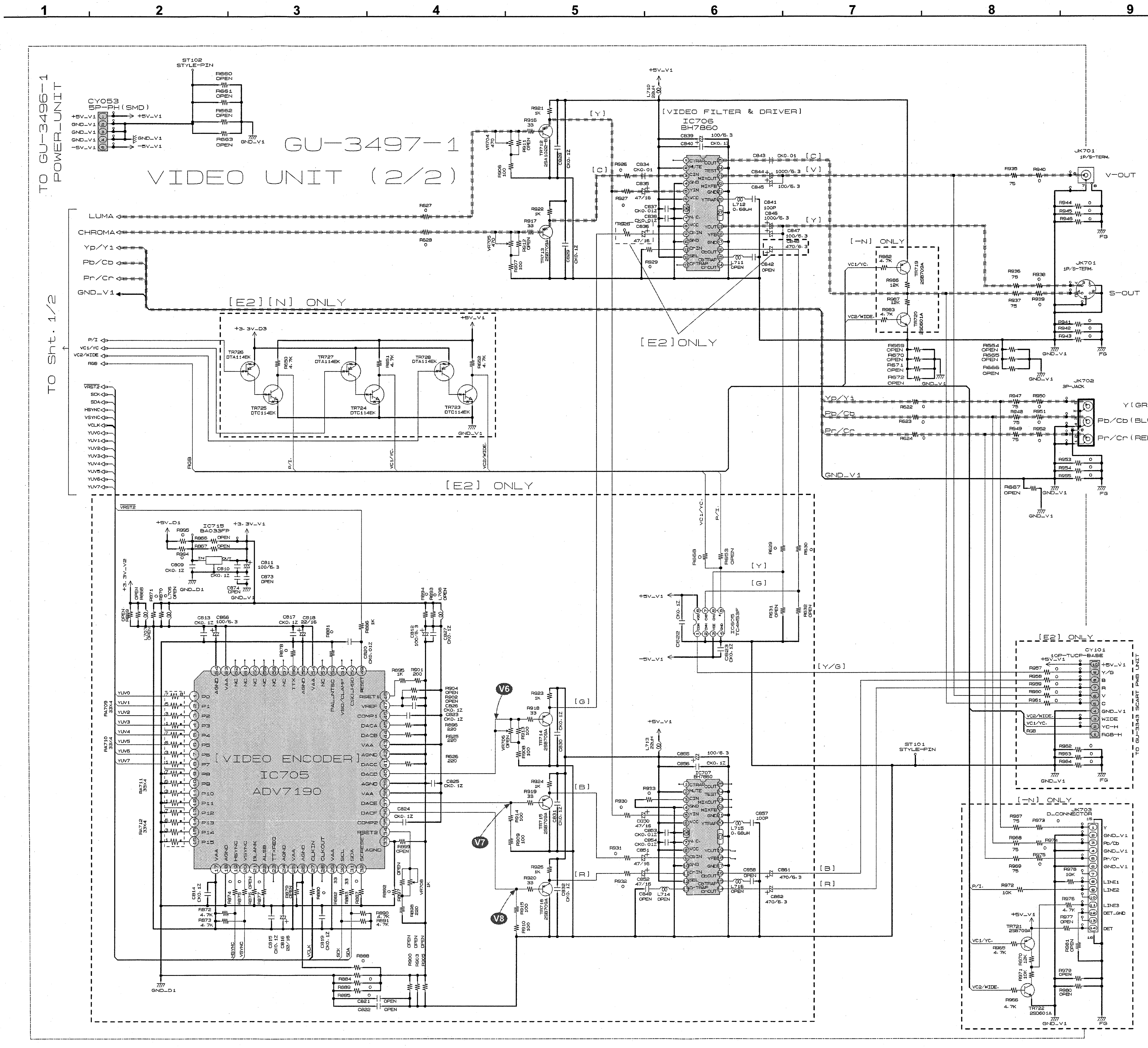
SCHEMATIC DIAGRAMS (6/9)

GU-3496-2 DISPLAY UNIT
GU-3496-4 P. SW UNIT
GU-3496-5 LED UNIT
GU-3496-6 SW UNIT


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
TO GU-3494 MAIN PWB UNIT
CY331
33P FFC BASE(FMNSMT)
[MC504]
IC703
PIC18LC242
X702
CSTCG20M0V51-R0
[72MHz MEM-CLK]
[64M SD-RAM]
IC702
64M SDRAM(TSOP)
[27MHz SD-CLK]
[I/P CONVERTER]
IC701
SII504CM208
IC716
IC714
BA18BC0FP-E2
[27MHz PS-CLK]
IC713
BA033FP
[VIDEO ENCODER]
IC704
ADV7300
[ASPECT RATIO SCALER]
IC601
XC2S30-5VQ100C
[P-ROM]
IC602
XC17S30AV08C
IC711
TC74HC123AF
IC603
TC74HC123AF
IC604
SN74LV00APW-EL2
IC712
PQ070XZ01ZP
D701
1SS355
TR711
2SA1022-B
TR710
2SD601A
IC708
TK15420MTL
IC709
TK15420MTL
IC710
TK15420MTL
LF701
EL84B590N
LF702
EL84C572
L704
22uH
L705
22uH
LUMA
CHROMA
+5V_V1
Yp/Y1
GND_V1
-5V_V1
Pb/Cb
Pr/Cr
To Sht. 2/2
V1
V2
V3
V4
V5
GU-3497-1
VIDEO UNIT (1/2)
VIDEO SIGNAL

SCHEMATIC DIAGRAMS (7/9)

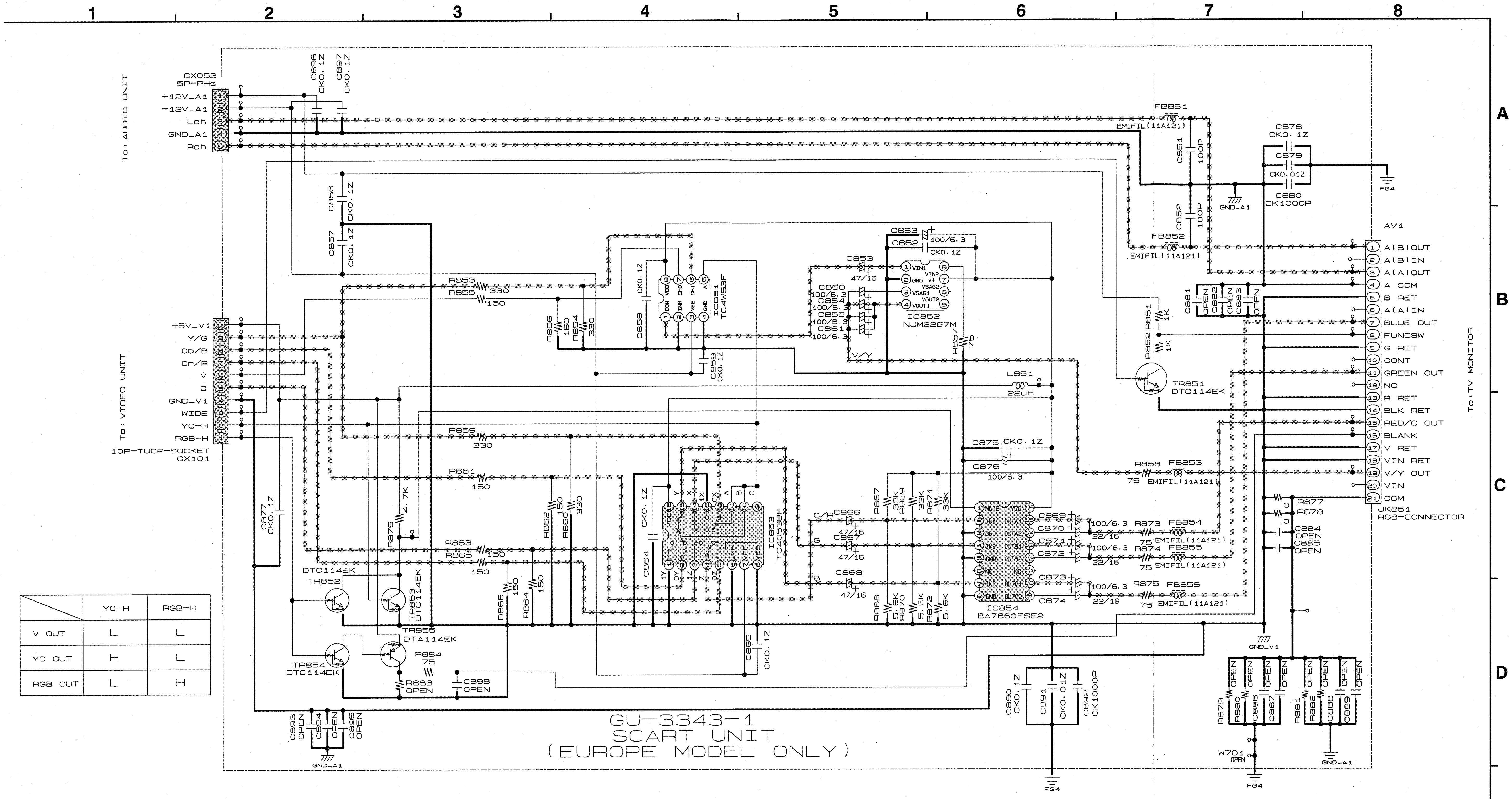
GU-3497 VIDEO PWB UNIT(1/2)


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
GU-3497-1
VIDEO UNIT (2/2)
TO GU-3496-1 POWER_UNIT
CY053 5P-PH(SMD)
+5V_V1
GND_V1
-5V_V1
ST102 STYLE-PIN
LUMA
CHROMA
Yp/Y1
Pb/Cb
Pr/Cr
GND_V1
TO Sht.1/2
P/I
VC1/YC
VC2/WIDE
RGB
VRST2
SCK
SDA
HSYNC
VSYNC
VCLK
YUV0
YUV1
YUV2
YUV3
YUV4
YUV5
YUV6
YUV7
[E2][N] ONLY
+3.3V_D3
+5V_V1
TR726 DTA114EK
TR727 DTA114EK
TR728 DTA114EK
TR725 DTC114EK
TR724 DTC114EK
TR723 DTC114EK
[VIDEO FILTER & DRIVER]
IC706
BH7860
[Y]
[C]
[V]
[E2]ONLY
[-N] ONLY
TR712 2SA1037K
TR713 2SB709A
TR719 2SB709A
TR720 2SD601A
JK701 1P/S-TERM.
V-OUT
JK701 1P/S-TERM.
S-OUT
JK702 3P-JACK
Y(GREEN)
Pb/Cb(BLUE)
Pr/Cr(RED)
FG
[E2] ONLY
IC715 BA033FP
+5V_D1
+3.3V_V1
+3.3V_V2
GND_D1
[VIDEO ENCODER]
IC705
ADV7190
V6
V7
V8
TR714 2SB709A
TR715 2SB709A
TR716 2SB709A
[G]
[B]
[R]
[Y/G]
IC707
BH7860
IC525 TC4W53F
-5V_V1
ST101 STYLE-PIN
[E2] ONLY
CY101
10P-TUCP-BASE
TO GU-3343 SCART PWB UNIT
Y/G
B
R
V
C
WIDE
YC-H
RGB-H
[-N] ONLY
JK703 D-CONNECTOR
Y
Pb/Cb
Pr/Cr
LINE1
LINE2
LINE3
DET_GND
DET
TR721 2SB709A
TR722 2SD601A

▪▪▪▪▪▪▪▪▪▪ VIDEO SIGNAL

SCHEMATIC DIAGRAMS (8/9)
GU-3497 VIDEO PWB UNIT(2/2)

SCHEMATIC DIAGRAMS (9/9)


1
2
3
4
5
6
7
8
A
B
C
D
To: AUDIO UNIT
CX052
5P-PHS
+12V_A1
-12V_A1
Lch
GND_A1
Rch
C896 CK0.1Z
C897 CK0.1Z
C856 CK0.1Z
C857 CK0.1Z
To: VIDEO UNIT
+5V_V1
Y/G
Cb/B
Cr/R
V
C
GND_V1
WIDE
YC-H
RGB-H
10P-TUCP-SOCKET
CX101
R853
R855
330
150
R856 160
R854 330
C858 CK0.1Z
IC851 TC4W53F
C859 CK0.1Z
C863
C862
100/6.3
CK0.1Z
C853
47/16
C860 100/6.3
C854 100/6.3
C855 100/6.3
C861 100/6.3
IC852
NJM2267M
V/Y
R857 75
L851
22uH
R859 330
R861 150
R876 4.7K
R862 150
R860 330
R863 150
R865 150
C877 CK0.1Z
DTC114EK
TR852
TR853 DTC114EK
TR855 DTA114EK
TR854 DTC114CK
R866 150
R864 150
R884 75
R883 OPEN
C898 OPEN
C864 CK0.1Z
IC853 TC4053BF
C865 CK0.1Z
C/R
C866
G
C867
B
C868
47/16
R867 33K
R869 33K
R871 33K
R868 5.6K
R870 5.6K
R872 5.6K
C875 CK0.1Z
C876 100/6.3
IC854
BA7660FSE2
C869
C870
C871
C872
C873
C874
100/6.3
22/16
R873 75
R874 75
R875 75
FB854
FB855
FB856
EMIFIL(11A121)
C890 CK0.1Z
C891 CK0.01Z
C892 CK1000P
C893 OPEN
C894 OPEN
C895 OPEN
GND_A1
FG4
GU-3343-1
SCART UNIT
(EUROPE MODEL ONLY)
FB851
EMIFIL(11A121)
C851 100P
C852 100P
GND_A1
C878 CK0.1Z
C879 CK0.01Z
C880 CK1000P
FB852
EMIFIL(11A121)
C881 OPEN
C882 OPEN
C883 OPEN
R851 1K
R852 1K
TR851
DTC114EK
R858 75
FB853
EMIFIL(11A121)
R877
R878
C884 OPEN
C885 OPEN
GND_V1
R879 OPEN
R880 OPEN
C886 OPEN
C887 OPEN
R881 OPEN
R882 OPEN
C888 OPEN
C889 OPEN
W701 OPEN
AV1
A(B)OUT
A(B)IN
A(A)OUT
A COM
B RET
A(A)IN
BLUE OUT
FUNCSW
G RET
CONT
GREEN OUT
NC
R RET
BLK RET
RED/C OUT
BLANK
V RET
VIN RET
V/Y OUT
VIN
COM
JK851
RGB-CONNECTOR
To: TV MONITOR

	YC-H	RGB-H
V OUT	L	L
YC OUT	H	L
RGB OUT	L	H

▨▨▨▨▨▨▨▨▨▨ VIDEO SIGNAL

E

SCHEMATIC DIAGRAMS (9/9)
GU-3343-1 SCART UNIT (Europe model only)